

THE JOURNAL OF LAND & PUBLIC UTILITY ECONOMICS



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FOUNDED IN 1892. Published bi-monthly:

February, April, June, August, October, December.

Subscription \$5.00 per year.

Canadian postage, 24 cents; foreign postage, 60 cents.
Single copies, \$1.00.

The University of Chicago Press - 5750 Ellis Ave., Chicago 37, Ill.

AMERICAN ECONOMIC REVIEW

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THE JOURNAL OF LAND & PUBLIC UTILITY ECONOMICS

FEBRUARY
1946



VOLUME XXII
NUMBER 1

The Mexican Water Treaty: Part One

By MARTIN G. GLAESER*

A YEAR has passed since the Foreign Relations Committee of the United States Senate, under the chairmanship of Senator Connally of Texas, voted out the Mexican Water Treaty 18 to 4. Immediately thereafter he departed for the Chepultepec conference. Two months later, on April 18, Congress, at the insistence of Senator Connally, ratified the treaty by a vote of 76 to 10, and once more Senator Connally departed, this time for the San Francisco Conference. The initiated into the ways of diplomacy contend that the successful consummation of a treaty without a time limit dividing the water resources of three boundary streams, the Rio Grande, the Colorado and the Tijuana between Mexico and the United States is not unrelated to the larger aspects of global diplomacy looking toward the organization of the United Nations. Certainly, the pace at which this treaty was whipped through the committee, with hearings beginning on January 22 and a vote taken on February 22, contrasts strangely with the deliberateness of the negotiations dating

back at least twenty years. One might also contrast the speed of the Mexican negotiations, once the State Department had put its shoulder to the wheel, with the glacial pace of the negotiations and congressional action on the St. Lawrence Seaway and Power Project. The ambient atmosphere of the good neighbor policy may have provided the diplomatic climate which furthered the one without expediting the other.

Another, even less kindly, consideration has been advanced as an explanation of the almost unseemly haste with which this treaty was put through. Certainly the record of member attendance at the Committee hearings, together with the fact that the treaty was voted out in two days after the conclusion of hearings with the voluminous testimony remaining unprinted and hence certainly not digested by the absentees, can be called unseemly procedure. Moreover, even Senatorial courtesy failed to hide the impatience with which Chairman Connally regarded the arguments and protestations of the treaty's opponents, particularly those of the Californians.

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Reading the testimony, the present writer could not shed the impression that the Chairman was protesting his patience too much. The moving consideration, somewhat darkly hinted, is that in compensation for the great advantages accruing to the state of Texas from the unequal division of waters in the Rio Grande between Mexico and Texas, a definitely liberal and preferred allotment of waters was accorded to Mexico out of the flow of the Colorado at the expense of the states comprised within its watershed, but chiefly of California.

Whatever may have been the political exigencies which produced the Mexican Water Treaty, students of the public utility and conservation problems will do well to note how certain issues were disposed of by this irremedial act of senate ratification. Within the limits of this article only the barest outline of facts can be given and only the most crucial issues will be stressed.

Benefits to Texas

The distribution of the water in the Rio Grande River between Mexico and the United States is accomplished by dividing the river into two sections. The upper section of this stream terminates at Fort Quitman, Texas, about 80 miles below El Paso. In accordance with a treaty ratified in 1906 the water in this section, derived exclusively from American sources, is stored in Elephant Butte reservoir, 125 miles above the boundary line, and delivered to Mexico at El Paso for use by irrigators in the Juarez Valley who had beneficially applied this water for a long time. The amount so delivered is limited to 60,000 acre-feet and constitutes a recognition of perpetuity of use on Mexican lands in accordance with the well known doctrine of prior appropriation.

From El Paso to the Gulf of Mexico the Rio Grande constitutes the boundary and it is this 1200-mile long lower section with water contributions from tributaries in both countries that is the subject matter of the present treaty. Mexican tributaries contribute 70 percent of the supply while tributaries in the United States, notably the Pecos and Devils Rivers, furnish only 30 percent. Apart from scattered minor irrigations at the northern end, the main development of this international supply on the American side is in the citrus fruit and vegetable growing area at the lower end in Cameron, Hidalgo and Willacy Counties. Except for the recent development of two large storage structures for irrigation and flood control, water use on the Mexican side was distinctly minor. On either side there are a million acres capable of irrigation if some 4,000,000 acre-feet of flood waters now wasting into the Gulf could be beneficially applied. Alternating periods of drought make the unregulated supply deficient for even the presently existing irrigation developments. Hence the treaty contemplates the joint construction of three storage reservoirs on the main stream to protect these improvements and to expand the irrigable area on both sides. Under the treaty Texas retains the flow of its own major named tributaries, is allocated one-half of the water in the international boundary section of the river, and obtains one-third of the flow from six Mexican tributaries with an assured annual minimum of 350,000 acre-feet. In addition the reservoirs will afford benefits of flood and silt control and of electric power production.

With the coming of upstream developments it is estimated that average stream flow into the reservoirs will aggregate 3,400,000 acre-feet of which about 2,000,000 acre-feet have been allocated

to the United States. In Mexico irrigation developments were mostly along the tributaries, and exceeded 100,000 acres at the beginning of the century. By 1940 these had been expanded to more than 500,000 acres. In the United States, except on the Pecos River where full development had already been obtained, the upper irrigated area lagged far behind that on the Mexican side. By 1940 only about 40,000 acres were served with irrigation water in upstream developments. The completion of the Missouri-Pacific Railway to Brownsville in 1904, however, ushered in a period of rapid irrigation expansion in the lower valley which reached the approximate total of 400,000 acres by 1940. It is this area which is threatened by the recurring droughts and floods. Water stored in the contemplated reservoirs should provide dependable irrigation for an expanded area, including lands now irrigated, of about 900,000 acres.

Little need be said regarding the hydroelectric power developments and the ancillary flood control structures contemplated. The benefits accruing and the allocation of costs follow procedures usually adopted for projects of this type elsewhere. Electric power and the costs thereof are to be divided equally between the two governments. Revenues from power sales are expected to be sufficient to cover operation and maintenance costs, to amortize the strictly power investment and to amortize also a portion of the costs of the storage dams.

There was no disposition among proponents or opponents of the treaty to question either the reasonableness or the engineering and economic feasibility of these contemplated improvements on the Lower Rio Grande River. They rest upon generally approved principles of unified development of the water resources of an entire watershed which

required international action by treaty. The sticking point was the alleged unwillingness of Mexico to discuss the problem of the equitable use of the waters of the lower Rio Grande without considering also the same problem on the lower Colorado River. The scope of the investigation originally provided for by the Congressional Act of May 13, 1924, was accordingly expanded by a joint resolution approved March 3, 1927 to include also the Colorado and the Tijuana Rivers. The latter is a small boundary stream near San Diego, California, flowing partly in Mexico and partly in the United States. The present treaty does little more with respect to the Tijuana than to reach an agreement that the two countries will at some future time allocate its available waters. It occasioned no divisive issue in the present controversy.

Injuries to States in the Colorado Basin

The history of the Colorado phase of these treaty negotiations began when American farmers, in attempting the irrigation of certain highly productive lands situated below sea level in the Imperial Valley of California, found it necessary to go through Mexico with a gravity canal (The Alamo Canal) that diverted Colorado River water from a heading immediately above the international boundary line. After passing westward through Mexican territory the canal again turned northwest into the Imperial Valley. It was necessary to organize a Mexican corporation to secure this concession and the terms included the free use of half the irrigation capacity of the canal. In order to protect their farms and crops from recurring floods, these irrigators also battled the river year after year with expensive levees that had to be raised from time to time on account of the deposition of silt.

Irrigation developments had also been progressing elsewhere in this basin. The real impetus for the use of Colorado River water, however, came from Los Angeles and the communities around it whose phenomenal growth in population and wealth is one of the epics of America. After successively tapping all available local water resources, which involved the gradual lowering of the water table through pumping operations until they threatened the intrusion of salt water, Los Angeles completed its 242 mile-long Owens River Aqueduct in 1913. This brought in what was believed to be a plentiful supply for the foreseeable future from unappropriated sources on the eastern slope of the Sierra Nevada Mountains. In less than a decade, however, Los Angeles with its satellite cities was once more in search of this life-giving fluid which is the basic foundation for its expanding economy. This time only the Colorado River, with its drainage basin of 244,000 square miles, provided the requisite surplus run-off. From the point of view of Southern California and the other lower basin states, this river is indeed the "last water hole" of the Pacific Southwest. Every citizen of the United States should be concerned with this water problem because the living potentialities of all who may be attracted to its climatic amenities for longer or shorter durations depend upon the economic wisdom with which this elixir of life is allocated.

It is impossible to recite here the historical details of the long period of gestation until in the fullness of time final plans were matured. In order to conserve the flood waters that from May until July flowed unused to the sea, it was planned to build a storage dam of 31,000,000 acre-feet capacity equal to about two years, flow of the river. With the prospect of better regulation of the

river in the interests of irrigation, flood control, and municipal water supply primarily, and secondarily for hydroelectric power production, it was also deemed essential that the share of each of the basin states be determined in advance so that their future economic development be safeguarded. Without such a basic agreement there was imminent danger that southern California, in the best position to make speedy use of the supply, might absorb much of it for its own benefit. This basic allocation of water resources was worked out in 1922 by a representative Colorado River Commission, under the chairmanship of Secretary of Commerce Herbert Hoover. The interstate compact embodying this allocation requires the states in the upper part of the basin above Lee's Ferry, i.e., Wyoming, Colorado, New Mexico and Utah, to guarantee the delivery during each 10-year period of not less than 75,000,000 acre-feet to the lower basin. Thus the lower basin states, i.e., Arizona, California and Nevada, get an average annual amount of 7,500,000 acre-feet for beneficial consumptive use, to which is added an additional 1,000,000 acre-feet of beneficial use per year from sources below Lee's Ferry. With 7,500,000 acre feet per year apportioned to the upper basin states, a minimum annual use of 16,000,000 acre-feet has thus been definitely allocated.

The compact further provides that, if the United States should by some future treaty allocate water to Mexico, the Mexican portion should first be derived from any surplus available above the allocated 16,000,000 acre-feet and if this surplus be insufficient then the deficiency is to be supplied equally by the two basins.

The way was now cleared for the next step comprising the actual construction of the necessary hydraulic works. After a long political battle Congress passed

the Boulder Canyon Project Act, approved by President Coolidge on December 21, 1928. This act authorized the construction of Boulder Dam and Power Plant at a cost of \$125,000,000 and of the All American Canal with appurtenant dam and extensions costing \$78,000,000. The latter was planned to supply an irrigable area of 1,000,000 acres in the Imperial and Coachella Valleys. As the name implies this irrigation system was to be located entirely within the United States and was designed to save the cost and complications of maintaining the old delivery canals in Mexico.

Before the Boulder Canyon Project Act, which also carried federal approval of the Colorado River Compact, could become fully effective, the signature of the basin states had to be secured. This proved to be difficult only in the cases of California and Arizona. The compact was ratified by the legislatures of the other states at various times. Because it was clear that Arizona would not ratify an alternative procedure to the seven state ratifications was provided for. Congress declared that the act should not take effect unless ratified by at least six states including California. Moreover, California was required irrevocably and unconditionally to agree with the United States for the benefit of the other states, including non-ratifying Arizona, that its total annually consumptive use would not exceed 4,400,000 acre-feet out of the 7,500,000 acre-feet available to the lower basin plus California's one-half share of the unapportioned surplus waters. The language of the statute described it " . . . as an express covenant, and in consideration of the passage of this act." In 1929 California passed this so-called Limitation Act in direct response to this alternative so that the Project Act could be declared fully effective by Presidential proclamation on June 25, 1929.

The financially conservative Coolidge administration had likewise insisted that the act provide that construction be not commenced until the Secretary of the Interior had procured executed water and power contracts which would assure repayment of the cost of the dam and power plant to the United States within 50 years, with interest at 4 percent. Similar repayment provisions, without interest as provided by the Reclamation Law, were to be applied also in the case of the All-American Canal. Pursuant to the above, the Interior Department entered into power contracts with public and private power users for the sale of hydraulic power at the dam site. It also contracted with these agencies to provide for the installation, amortization, operation and maintenance of the necessary electric power producing machinery because the Reclamation Service was planning to operate the dam only to supply the energy of falling water leaving its conversion to hydro-electric power to the power contractors. These power contracts, particularly those with California interests, are proving to be the paying partner in this part of the enterprise. Similarly, permanent water contracts for the delivery of water from Boulder storage have also been entered into. The respective water requirements and the financial commitments they entail for California interests are disclosed in the following schedule:

<i>Irrigation Districts</i>	<i>Water Requirements acre-feet</i>	<i>Financial Commitments</i>
Palo Verde irrigation district	4,150,000	\$78,000,000
Yuma Project in California		
Imperial Irrigation district		
Coachella water district		
Metropolitan Water District	1,100,000	266,000,000
Parker Dam		
City of San Diego	112,000	16,000,000
Power Contractors—dam and power plant		125,000,000
transmission lines		56,000,000
	5,362,000	\$549,000,000

Additional water contracts were entered into with the state of Nevada calling for a maximum annual delivery of 300,000 acre-feet. In 1944 Arizona ratified the Colorado River Compact and has since made a water contract for an annual maximum delivery of 2,800,000 acre-feet plus one-half of the available surplus.

We come now to the focal point of the entire controversy. Previous to the availability of Boulder storage, Mexican uses of Colorado River water, principally for irrigation of cotton growing lands, had reached the limit of safe and profitable development. Together with American diversions, these uses consumed the entire flow of the stream during the dry season and hence were at times subject to severe shortages during dry years. The uncontradicted testimony appears to be that during the last ten-year period Mexican uses had averaged 600,000 acre-feet, with an annual maximum of 750,000 and a minimum of 228,000. Moreover, Mexican diversions were dependent, as we have seen, upon structures located in the United States and upon canals and protective levees furnished by American capital. With no storage sites available to Mexico in the flat delta area and with her agriculture menaced (except where American-owned protective works were available) by devastating floods, the unregulated condition of the river gave no promise of a permanent agriculture. As Senator Pittman said during the debates in 1928 on the Project Act: "The natural flow of that river today will not irrigate any more than 240,000 acres of land in Mexico. That is all it will irrigate . . . If this dam is never built, if there is no water impounded on that river, Mexico a thousand years from now will be where Mexico is today with regard to irrigation in Mexico."

After the construction of Boulder storage, this situation was changed radically. With the removal of the flood menace and with the regulated flow of the river, the situation of Mexican landowners was such that they could benefit from the ample supplies released for power production from Boulder storage. American irrigation requirements, while growing, have not yet fully appropriated the contractual allotments, nor will they do so for perhaps another generation. Even after full utilization has been obtained, Mexico will still be in a position to make use of all the return water, excess flood flows, or seepage that reaches the international boundary.

Under these circumstances it is not surprising that beneficial utilization on Mexican lands has grown very rapidly until it is estimated to have reached a total of 1,800,000 acre-feet. It is this situation which has been deemed to be the immediate practical reason for coming to a final understanding with our southern neighbor.

At this point it is necessary to return to the provisions of the Colorado River Compact, the negotiators of which had foreseen this international complication. After allocating water to the upper and lower basins, the compact provides that:

"If, as a matter of international comity, the United States of America shall hereafter recognize in the United States of Mexico any right to the use of any waters of the Colorado River system, such waters shall be supplied first from the waters which are surplus over and above the aggregate of the quantities specified in paragraphs (a) and (b) [the 16,000,000 acre-feet per annum definitely allocated] and if such surplus shall prove insufficient for this purpose, then the burden of such deficiency shall be equally borne by the upper basin and the lower basin."

This availability clause of the compact to which it is claimed all water delivery contracts under the Project Act are made subject, is relied upon by those who con-

tend that California and other Colorado River water contractors have agreed in advance to accept any diminution of their contract rights whatever they may be.

The present treaty concedes to Mexico a minimum quantity of 1,500,000 acre-feet per annum to be delivered in accordance with Mexican irrigation schedules and to be increased by 200,000 acre-feet if and when available as adjudged by the United States. In a previous effort to come to an understanding, made by a Treaty Commission in 1930 when the contracts were being negotiated, the American members had offered 750,000 acre-feet, which was considered a fair and generous offer because it was equal to the maximum Mexico had ever appropriated. It was also considered that the 750,000-offer should be a guaranteed supply of virgin water, uncontaminated by high salinity and with canal losses to be borne by the United States. But Mexicans, it is said, had demanded 3,600,000 acre-feet obviously for bargaining purposes.

The treaty expressly provides that the present minimum guarantee of 1,500,000 acre-feet may be made up of any waters of the Colorado "whatever their origin" [Article 11] and "from any and all sources" [Article 10]: That is to say that the deliveries may be direct river flows, return flow from irrigation waters and hence impregnated, or seepage arriving at the boundary. Deliveries are to be mainly in the boundary section of the river but it is also provided that until 1980, 500,000 acre-feet annually are to be delivered through the All-American Canal and 375,000 acre-feet thereafter. In return for the use of these delivery facilities Mexico is to pay a fair share of their cost but is also given a share of the net revenues of the Pilot Knob power plant on the canal.

A very significant part of the treaty is the permission accorded to Mexico to build a permanent diversion dam at any point below the California-Mexico boundary, the so-called "upper boundary." It is in this river boundary section that there are suitable sites for such a structure without which it would be difficult for Mexico to capture these waters. Until the present treaty, Mexico was expressly denied this privilege.

In this connection it should also be noted that the treaty provides that in case of drought or serious accident to the hydraulic works in the United States, deliveries to Mexico may be curtailed *pari passu* with the curtailment of uses in the United States. Similarly in the case of the Rio Grande allocation to the United States, if Mexico is unable to provide the minimum 350,000 acre-feet from Mexican tributaries the deficiency may be made up during the next 5-year cycle.

In order to make possible the delivery of these quantities in accordance with a schedule of irrigation requirements, the United States is required to build at its own expense Davis Dam, located between Boulder and Parker Dams. This should serve the purpose of re-regulating the outflow from Boulder Dam which is dominated by the needs for electric power releases. In this way Davis storage can be released in part to meet the Mexican schedule of irrigation requirements. There are other treaty obligations which will or may work hardship upon Americans in the Colorado River basin; but these are the important ones.

Summarizing the supply and demand situation as modified by the treaty, one may use as a point of departure the Bureau of Reclamation's estimate of the average outflow from Boulder Dam. This is based upon studies of stream-

flow over a 44-year period and takes account of the fact that there are alternating wet and dry cycles of from 7 to 11 years' duration.

SUPPLY	Acre-feet
Outflow from Boulder Dam.....	8,500,000
Reservoir and other river losses below Boulder Dam.....	600,000
Available for use.....	7,900,000
REQUIREMENTS	
Nevada Contract.....	300,000
California Contracts.....	5,362,000
Arizona Contracts.....	2,800,000
Mexican Treaty.....	1,500,000
Total Requirements.....	9,962,000
EXCESS OF REQUIREMENTS OVER SUPPLY.....	2,062,000

The above schedule was taken by opponents of the treaty to demonstrate that any minimum guarantees of water to Mexico must invade the commitments made by the United States to its own projects. It was also used, especially by California and Nevada, to demonstrate the liberality of the offer made in 1930 to award Mexico a firm supply of 750,000 acre-feet annually.

Administrative Provisions

The agency selected to administer the treaty is the old International Boundary Commission created by the convention with Mexico dated March 1, 1889. The present treaty merely changes its name to International Boundary and Water Commission and adds to its powers and responsibilities. The jurisdiction of this agency is confined to the hydraulic works designed for the boundary portions of the international streams and to the international land boundary. It is given the status of an international body with a United States section and a Mexican section, each headed by an engineer-commissioner. Each government accords diplomatic status to the Commissioner and other designated officers of the section of the opposite government. If action by the governments is required,

the Department of State of the United States and the Ministry of Foreign Relations of Mexico are designated as the agencies to represent the two governments where joint action is to be taken.

An important part of administration are the articles whereby the two governments through their respective sections agree to carry out the construction of the works allotted to them. They agree to acquire all the private property necessary for the construction, maintenance and operation of the works and to have ownership and jurisdiction over all the properties required to carry out treaty provisions, but each section is definitely restricted to its own territory. A supplementary protocol intended to clarify these administrative provisions, ensures that where works are to be constructed or used wholly within the territory of a country but used only partly for the performance of treaty functions, the jurisdiction and operative functions shall be in the hands of the federal agencies selected by the domestic law to carry them out. This would ensure the administrative inviolability, for instance, of the Reclamation Service in the construction and operation of Davis Dam.

In addition to specific powers and duties, certain general ones relating to the making of investigations and the preparation of plans for hydraulic works and their control are entrusted to the Commission. Similarly, the preparation of reports and formulation of recommendations to the respective governments, the settlement of differences arising over treaty matters, and the prevention of violation of treaty terms, devolve upon this joint Commission.

By way of summary and interpretation there should be added the view¹ of a leading proponent of the treaty, Dr.

¹ *Water Treaty Between the United States and Mexico*, Department of State Bulletin, March 25, 1944.

Charles A. Timm, of the Division of Mexican Affairs, Department of State:

"Considered in the light of previous treaties relating to the use of water from international streams for various purposes, it is not improbable that the treaty of February 3, 1944, now awaiting action in the senate, may come to be regarded as the most important of its kind in the history of the world, both in the range and scope of its provisions and in its social and economic significance. It is more than a mere division of water between two countries: it provides the administrative machinery and the principles for international cooperation in the development of these water resources. As such, it may well be taken as a model for future treaties governing international streams.

"The treaty is comprehensive in its terms. However, it is in line with precedents already established. Attention has already been drawn to the treaty of 1906 providing for the equitable distribution of the waters of the Rio Grande in the El Paso-Juarez Valley, in which existing uses in Mexico as of the date of the treaty were protected. There is also the treaty of 1929 between Egypt and Great Britain, the latter acting for the Sudan (93 League of Nations Treaty Series 43, 86-88), governing the use for irrigation of the water of the Nile. By its terms, the taking of water in the Sudan was limited in a manner to protect developments in Egypt. The proposed

treaty with Mexico not only assures water for lands now under irrigation in both countries but also provides measures for the better utilization of the available supply, both for the present developments and for the greatest possible number of feasible future projects. Furthermore, it does not overlook the possibility of power development.

"It is fortunate for both the United States and Mexico that they have ready at hand a competent and experienced Boundary Commission to administer the treaty. Organized under the convention of 1889, this Commission has been especially active since 1927 in the administration of boundary matters, which include the elimination of bancos under the convention of 1905, the marking of the boundary by means of monuments, and the construction, by its two national sections, of flood-control and sanitation projects. Probably the greatest joint undertaking thus far has been the rectification project in the El Paso-Juarez Valley under the treaty of 1933, by which the entire channel of the river was rectified and controlled from El Paso to Box Canyon, effecting a shortening of the river for 155 miles to 85 miles in that reach. Furthermore, the United States Section has canalized the Rio Grande for most of the 125 miles from El Paso to Elephant Butte Dam, and in the Lower Valley of Texas it has under construction a vast flood-control program. It is this Commission which now stands ready to execute the provisions of the present treaty."

(In Part Two, which will appear in the May issue of this Journal, the author will discuss the issues involved as advanced by both the proponents and the opponents of the treaty.)

An Experiment in Forest-Farm Resettlement

By SIDNEY HENDERSON*

THE years following 1933 saw the establishment in various parts of the country, of a number of family relocation projects designed to improve land utilization and the conditions of rural life. There had been little previous experience in attempting thus to improve the economic and social base of rural communities and to adjust rural population to resources. To a considerable degree, therefore, the projects were necessarily experimental. This paper summarizes an analysis recently made of one such project, the federally-sponsored Drummond Forest Community in northern Wisconsin.

At the time data for this analysis were collected, late in 1944, the termination of this project was being seriously considered, since a large proportion of the family units had been vacant for some time. More recently, it has been decided to terminate federal operation of the project and to turn the property over to a limited number of private individuals. In the analysis here presented an attempt has been made to appraise the project in terms of the degree to which it achieved its objectives, reasons for success or failure, and conclusions which may be relevant to similar situations elsewhere.

Description

The Drummond Forest Community consisted of 32 home units located within the Chequamegon National Forest in Northern Wisconsin. The surrounding area is characterized by cut-over land with little merchantable timber and soil

mostly unsuitable for commercial agriculture. The project was started in 1935 by the Resettlement Administration (later the Farm Security Administration) and the U. S. Forest Service. Funds were provided largely through the W.P.A. The community was intended to provide relocation homes and work opportunities for nearby rural families who, by reason of their isolated location on poor land, were unable to make a reasonable living and were a source of heavy governmental costs for schools, roads and relief. Part-time work was to be provided by the Forest Service in the development and maintenance of the National Forest, and land was to be cleared for part-time farming.

A location about seven miles southwest of the village of Drummond, in Bayfield County, was selected as suitable from the point of view of soil for farming and accessibility to forest work, good roads and school and market facilities. The community was located on the edge of an area already partly occupied by small farms. Most of the surrounding land in the Chequamegon National Forest is restricted by county zoning ordinance against year-round residence and agricultural use but the project community and the nearby farming area are unrestricted. The community was served by all-weather, graveled roads, and a school bus carried the children to a modern school in Drummond. Local school authorities were glad to have the project developed since the school facilities were only partly utilized at the time. The village of Drummond is small but adequate for most consumer trading purposes and provides a limited market for farm produce.

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Objectives

Family Relocation and Rehabilitation. Among the objectives of the project most emphasis was placed on the relocation and rehabilitation of families living in isolated areas with no adequate sources of income from either farming or outside work.

Both long-time and short-time developments played a part in creating the problem of isolated settlement. As the forests of this area were cut off, families moved onto scattered parcels of land on the assumption that all the land would be settled eventually. Much of the land was unsuited to farming and the expected development never occurred. In the meantime part-time forest work supplemented the meagre farm returns. By 1930 the harvesting of timber had declined to a low level and, at the same time, sharply reduced prices for farm products reduced the farm incomes almost to the vanishing point. The resulting hardship and heavy relief loads led to the proposal of many types of remedial measures.

Relocation of families, while more costly in the beginning than other relief programs, met with much public favor because it gave hope of a more permanent solution. Since it was proposed to draw project residents largely from nearby areas restricted by zoning against future new settlement, the relocation of such families would permanently adjust the land use in those areas. Thus, both human and land use problems would be solved at the same time.

But if this rehabilitation were to involve greatly increased outputs of agricultural products by these families, it would react unfavorably on farmers in other areas who were already suffering from a national output beyond the ability of a depression-ridden economy to absorb. Under the leadership of the Sub-

sistence Homesteads Division of the Department of Interior, the idea of part-time or "subsistence" farms was developed to meet this dilemma. For rural families this program called for a continuation of, or only moderate increase in, agricultural production but for greatly increased opportunities for supplementary non-farm employment.¹ This was the philosophy back of the Drummond Project.

A Source of Forest Labor. While obtaining work from the Forest Service was essential to family rehabilitation at Drummond, the provision of workers for the Forest Service was stated to be a second major objective of the project. The Forest Service had recently acquired large areas of cut-over land needing work in the development and maintenance of proper forest conditions and it was anticipated that the proposed community would develop a skilled, reliable and easily accessible source of labor for this program.

Combining Forest and Farm Work. A third objective of the project was to develop a pattern of combined forest and agricultural work that might be desirable for much of the cut-over region. This combination had been nearly universal during the early agricultural settlement of the north, as a means of livelihood while farms were being developed. By 1930, however, the existing stock of merchantable timber had almost disappeared and new farm development was only approximately keeping pace with farm abandonment. Still, there was reason to believe that this employment combination would be desirable for many families and it was thought that development work in public forests would be a satisfactory basis for forest work

¹ M. L. Wilson, "The Place of Subsistence Homesteads in our National Economy," *Journal of Farm Economics*, January 1934.

until such time as the harvesting of timber might again become important.

A Fuller Life. Still another ideal which influenced the development of the project was that of providing rural families with many of the comforts usually associated with urban living. Citations indicating this objective are not readily available but the idea was inherent in the subsistence homesteads movement. The community form of settlement, modern facilities in the houses and easy access to schools, churches, and a village center were expected to yield these objectives.

Development

The land chosen for the community had been purchased previously by the Forest Service as a part of its regular acquisition program for National Forest purposes but was made available for this project. Land clearing and the construction of improvements were financed by the Resettlement Administration (Farm Security Administration). The Forest Service was in charge of the development and operation of the project but the Farm Security Administration retained title to the improvements.

The development work was done almost entirely by W.P.A. and C.C.C. labor. Due to a variety of circumstances, one of which was the necessity of using appropriations before their expiration date, much of the work had to be done during winter months—land clearing in 1935-36 and building construction in 1936-37. This, combined with the use of relief labor and changes in plans calling for running water with modern plumbing and for garages, raised the costs from an estimated \$4,000 to nearly \$7,000 per unit. Forty units were originally planned but the higher costs made it necessary to limit the project to 32 places.

The farmsteads of the forest community were arranged in groups, so that one well and pumping system furnished running water for two to four farms in each of eleven groups. There were 23 four-room and 9 three-room houses. All were neat frame buildings with modern plumbing. They were wired for, but not provided with, electricity; heating was by stoves. Each unit consisted of twenty acres of land, five of which were cleared for crops, five had the brush removed for pasture and the remainder were available for woodland pasture or woodlot. A combination barn and garage and the necessary fencing were provided for each tract.

Occupancy

In September 1937 the first seven families came to the community. The community was occupied to near capacity from August 1938 to the end of 1940. During 1941 and 1942, however, the number of families declined rapidly and during 1943 and 1944 only about a fifth or sixth of the houses were occupied.

The sharp decline in occupancy, starting late in 1940, coincided with the opening up of defense jobs and profitable work outside the community. Little effort was made by the Forest Service after the early part of 1942 to get families to occupy the vacant houses, since it was believed that the nation, and families as well, would be better served if such potential settlers were encouraged to go into war work or commercial agriculture.

TABLE I. NUMBER OF FAMILIES OCCUPYING THE DRUMMOND FOREST COMMUNITY*

Year	January	April	July	October
1937.....				7
1938.....	7	18	28	30
1939.....	28	28	30	29
1940.....	31	31	29	29
1941.....	23	23	20	17
1942.....	16	17	13	9
1943.....	7	5	5	5
1944.....	5	5	7	8

* First of month.

Selection of Residents. Originally the selection of families was to be entirely from the area within the National Forest in Bayfield County and two contiguous townships in Sawyer County. In order to obtain a sufficient number of qualified applicants the area was extended in December 1937 to include all of Bayfield and Ashland Counties and all the National Forest area in Sawyer County. In later years the area was extended still further to include twelve counties in northwest Wisconsin but preference was always given families near the project.

The selection of tenants was always made by a Forest Service committee consisting of the Forest Ranger in charge of the area which included Drummond, the Supervisor of the Chequamegon National Forest, located at Park Falls, and a representative of the Regional Office at Milwaukee. A family selector was employed for a few months early in 1937 to interview applicants and make preliminary recommendations. The seven families entering the project in 1937 were evidently a careful selection from a large number of applicants, all within the original project area. They proved to be highly satisfactory workers and stable tenants.

After the fall of 1937 preliminary contacts and interviews with prospective settlers were made largely by the several district forest rangers, with some help from the Farm Security Administration. Difficulty was experienced in finding enough suitable applicants, despite the enlarged area for selection, and this, together with the inability of the rangers to spend much time on the work, prevented as careful selection of families as was carried out the first year.

According to the eligibility requirements, which were not changed greatly throughout the life of the project, families selected were limited to those in the low

income group (usually under \$1000 per year) and who were in need of resettlement. They were required to be citizens of the United States and to consist of married couples living together with not over seven members in the family. (Originally families could not exceed five members). The head of the family had to be 21 years of age and preferably under 55. He must be able to do forest and farm work. The family, in general, had to appear able and willing to fit into the community and had to be free from chronic and infectious diseases. Families actually selected were mostly young couples with one to three children. A few were newly married and just setting up housekeeping.

The small size of the houses (3 and 4 rooms) narrowed the range for family selection somewhat and doubtless a number of otherwise suitable families did not apply because of the inadequacy of housing space.

A federal program for relocating isolated rural families through government purchase of their submarginal farms was carried out in the zoned area surrounding Drummond, and also in other parts of northern Wisconsin, about the time the Drummond community was started. This purchase program was conducted independently of the Drummond Project but it had been expected that the community would obtain many of its settlers from this source. About 100 farms were bought by the government through this program within a distance of 25 miles from the Drummond community. Nevertheless none of these families appear to have relocated in the community. Most of the submarginal farms were bought and paid for during the years 1935 to 1937 so the families may have made arrangements for relocation prior to the opportunity to apply for membership in the community. It is unlikely, how-

ever, that many could have met the requirements for community residence if they had applied. An analysis of the characteristics of the 100 families indicates that probably not over a quarter would have met the more obvious requirements.² Finally, within this 25 percent, many would not care to join the community or would be unsuitable for a variety of other reasons.

Tenure. Ownership of both the land and the improvements has rested with the United States Government throughout the life of the project. There was apparently some thought at the beginning of eventually selling the farm units to the tenants but no such arrangement was ever made. The general understanding—not included in any formal agreement—was that families could stay as long as they wished, provided they were satisfactory community residents.

The lease or "licensing agreement" provided for the use of the property by the lessee for an indeterminate period but was subject to termination on 30 days' notice by either party. The licensee agreed to cultivate and farm the land to the best of his ability and to keep the premises in good normal order and condition. The cost of labor as well as materials was covered by the government in case of major repairs. No reference was made in the lease to the furnishing of work for the tenants by the Forest Service. Nor was any provision made for reimbursement of the costs of any land clearing or other improvements which might be carried out by the tenants themselves.

The rents charged were determined more on the basis of expected family incomes than on the cost of project development. Rental charges were set at

²Data on relocation of families in the files of the F.S.A. give indications of status regarding (1) income class (2) need for relocation, (3) married and living together (4) not over 7 in family, (5) man 21 to 54 years of age and (6) able to do forest work.

\$8.00 per month for three-room places and \$8.50 for four-room places during the first year of the project. Rates were raised each successive year until the fifth year when \$14.50 and \$15.50, respectively, were charged. These remained in effect the rest of the time and were considered normal rates. They were calculated to represent about 20 percent of the average family incomes.

Rents collected from the tenants were used to cover the costs of project maintenance and to make payments to the local government in lieu of school and other taxes. The local school district complained that these payments were not enough to cover the community's pro rata share of school costs, although they probably covered the additional costs incurred. Even so, the costs of project maintenance and payments to local government absorbed all the rental receipts with nothing left for interest on the cost of project development or for amortization of the principal.

Incomes

The principal source of cash income was work for the Forest Service in the development and maintenance of the National Forest. The Forest Service also hired community residents for some of the work required in maintaining community improvements and, especially after the war started, it sold considerable stumpage to several of the families. This they cut and marketed on their own time. Farm produce, for sale and for home consumption, was expected to be another important source of income but the realization was considerably short of expectations. Finally, a few of the families received substantial amounts from work for local private parties or from work outside the community.

When the project was started it was estimated that the average family income

would amount to at least \$969 per year. This estimate was based on the informal agreement of the Forest Service to furnish each worker with about half-time forest work, and on the assumption that the families would make rather full use of the crop and pasture land on their tracts. The forest work was expected to return an average of at least \$419 per year. Farm products sold were assumed to bring about \$300 per family and the value of farm products used at home was estimated at \$250. This would make \$969 per family, with no allowance for stumpage or for other outside work.

It was not assumed at that time that timber harvesting would become important for many years to come, owing to the small size of most trees and the predominance of poplar and other low value species. War demand and prices, however, made this a significant source of income in recent years. Probably a somewhat greater number of families could have benefited from this source if they had been skilled loggers—which very few were.

During the seven years and more that the project was in operation the return per family for work obtained through the Forest Service averaged \$694 per year, which compares favorably with the \$419 originally estimated. Out of this income secured through the Forest Service, \$557 was for forest development work, \$18 was for project maintenance work, and an estimated \$119 was received above the cost of stumpage for timber products cut on Forest Service land.

No quantitative data are available on income from other sources, namely: farm marketings, farm products used at home, work for private individuals, and private enterprises other than farming.

As for agricultural incomes, the opinions of all persons contacted in this

study, and whatever records are available, indicate that very few of the community residents approached the scale of farm operations anticipated by the project planners. This failure of families, by themselves, to make full use of the land partially or completely prepared for them, led to the employment of a farm manager or advisor, late in 1941. Coinciding as this did with the rapid decline in the number of families, the farm manager was retained less than a year so results were inconclusive.

As a rough estimate of agricultural incomes in the community it may be noted that the 1939 census shows the average annual value of cash sales per farm in Drummond Township to be about \$100 per farm and the average value of farm products used at home for Bayfield County to be about \$140 per farm. These might be considered as maximum estimates for the value of products produced on the much-smaller-than-average Drummond project farms.

Most families had no important source of income except work obtained through the Forest Service and the product of their farms, since there is virtually no private industry near the community, relatively few farm jobs, and little private timber to harvest. However, a few families benefited substantially from these latter sources and some allowance must be made for them in estimating total average family incomes.

If an average of \$50 per year for all families is estimated for these items, together with \$100 for agricultural products sold, \$150 for products used at home, and \$700 for work received through the Forest Service, a total average family income of about \$1000 per year is obtained. This is fully as much as was estimated in the beginning—a result of the income received through the Forest Service being enough larger than

estimated to make up for the deficiency in farm incomes.

Not only did average total incomes approximately equal those originally anticipated but the returns obtained through the Forest Service were fairly uniform for the individual years and individual families. Thus, in no year did the average family income from this source fall below the anticipated minimum of \$419 and only 5 of the 47 families, who at some time lived in the community, averaged less than this amount per year of total residence. The annual and per family distributions of such income are shown in the Tables II and III.

Significant Findings

Project Could Not Compete with Outside Jobs During War Time. While the community was almost fully occupied from 1938 to the end of 1940, the next two years saw community occupancy decline to less than a quarter of capacity. Improved opportunities outside the community were undoubtedly responsible for most of this exodus.

According to information on Wisconsin farm incomes,³ the income of project members compared favorably with labor incomes on farms, both in the cutover area and in the whole of Wisconsin, prior to the war period. Since the war, however, full-time jobs at non-farm work have been available at excellent wages and the returns to both farm labor and farm management have mounted greatly over prewar rates. In contrast, the incomes available in the community have remained virtually static because the money available to the Forest Service for forest development stayed about the same or even declined and the amount of farm products sold by the families was too small for the higher farm prices to be significant. This discrepancy between wartime incomes within and without the community made it almost inevitable that most families should move to other places and jobs.

The absence of home ownership in the community probably also played a part in this situation. Without any invest-

³ *Economic Information for Wisconsin Farmers*, Jan. & Feb. 1945, Extension Service of College of Agriculture, Madison, Wisconsin.

TABLE II. AVERAGE ANNUAL EARNINGS OF DRUMMOND COMMUNITY FAMILIES FROM WORK OBTAINED THROUGH THE FOREST SERVICE, 1937-1944

Year	Average No. Families in Residence	Average Per Family per 12 Months of Residence			
		Work in National Forest	Community Maintenance	Labor Return from Cutting Pulp, etc.	Total
1937*	7.0	\$1,360	\$.....	\$.....	\$1,360
1938.....	22.4	526	.....	.....	526
1939.....	29.5	644	.....	37	681
1940.....	28.6	540	21	151	712
1941.....	19.7	548	49	84	682
1942.....	13.3	557	43	307	907
1943.....	5.4	367	19	41	427
1944.....	6.2	275	.....	598	873
Ave.....	17.4	557	18	119	694

* Three months only.

ment in their homes, families could move out without suffering any substantial loss of investment. This may be good or bad according to the point of view. From the family's viewpoint, it was obviously desirable to move out. From the standpoint of investment of public funds, a greater return could naturally be obtained if the houses continued to be occupied. It is also possible that had the families owned their places or been promised compensation for private development, some of them might have increased their earnings by clearing additional land or otherwise developing their agricultural operations.

Essentially, however, the outside income factors were controlling. In the

community it was possible, with part-time forest work and small agricultural returns, to more than meet the opportunities available to these families elsewhere during the depression years. Fairly good depression incomes were received. But depression incomes are not enough. A permanent community cannot be maintained on part-time employment, and with the coming of wartime conditions the community was almost deserted.

Homes and Incomes Provided During Depression. Although the project did not provide satisfactory permanent sources of income for most families, it did meet an immediate critical situation for many families. It also helped put them in

TABLE III. EARNINGS OF INDIVIDUAL FAMILIES IN THE DRUMMOND COMMUNITY FROM WORK OBTAINED THROUGH THE FOREST SERVICE. AVERAGE EARNINGS PER TWELVE MONTHS OF RESIDENCE, 1937-1944

Family Number	Years in Community	Income per Year	Family Number	Years in Community	Income per Year
1.....	2.8	\$831	25	7.3	\$745
2.....	2.7	642	26	1.1	548
3.....	.9	1745	27	2.4	544
4.....	6.8	573	28	4.1	722
5.....	4.3	285	29	2.4	637
6.....	4.8	513	30	3.2	856
7.....	1.7	349	31	.6	234
8.....	.3	494	32	7.1	660
9.....	.8	1423	33	7.3	1104
10.....	1.2	585	34	1.2	550
11.....	.8	1253	35	1.5	590
12.....	.8	451	36	4.2	774
13.....	7.2	1267	37	1.7	696
14.....	2.9	578	38	.8	482
15.....	2.9	561	39	3.0	570
16.....	3.8	598	40	5.2	613
17.....	3.3	632	41	2.8	581
18.....	2.1	504	42	.5	474
19.....	.6	933	43	3.5	668
20.....	2.4	453	44	.5	372
21.....	3.0	666	45	.4	648
22.....	2.4	541	46	.6	.....
23.....	4.8	586	47	.3	1680
24.....	2.0	688	.....	.....	.....
			Average	2.7	694

position to take advantage of good wartime jobs when these became available. Even the absence of home ownership was a desirable factor in this respect. In the opinion of the forest ranger, who was in close touch with the project, virtually every family was better off after its stay in the community. Thus the immediate depression problem, which constituted the chief incentive for the community, was reasonably well met as far as these families were concerned.

Moreover, the improved living conditions provided by the modern houses, good school facilities and social contacts, were much appreciated by most residents. The idea sometimes expressed, that families used to primitive living conditions will not appreciate modern facilities, was not borne out by this project. Many families indicated that they disliked leaving the community but that the discrepancy in incomes made it necessary. Many have also asked about the possibility of returning after the war. While present plans will limit the capacity of the project site to a relatively few families, owning their own places, this interest does indicate the adequacy with which the project met family problems during the depression.

Costs of Project High. The costs of development, running as they did to approximately \$7000 per tract, would be high even if the project were to be completely occupied on a permanent basis. To be sure, much of the cost incurred at Drummond would have had to be paid out as relief, anyway, but there are many ways of using relief labor and doubtless more benefits to more people could have been attained in other ways. The high costs at Drummond can be attributed partly to the use of relief labor, winter work, modern facilities, etc., and partly to the experimental nature of the project. But the question

of reducing costs to a minimum must be given serious consideration if any such projects are planned in the future. Certainly if the aid rendered families is to be temporary, as has proved to be the case at Drummond, and if the costs are likely to be as large as they were there, then some other method of family rehabilitation should be found.

Most Isolated Settlers Needing Relocation, Not Suited to Community. The experience of the Drummond Project seems to indicate that the requirements of a forest workers' community are not consistent with the relocation needs of a large proportion of isolated farm families. Few, if any, families, whose isolated homes were purchased by the government under the Sub-marginal Land Program, actually relocated in the Drummond Community. Most of these isolated settlers could not have met the requirements for community residence if they had applied. Often the family head was too old or not suited to forest work or the family was too large for the community houses, or the family would not fit into the community for other reasons. Among the latter should be mentioned the extreme individualism which is usually associated with isolated settlement and which is not conducive to a smooth-working community life.

The problem of family size need not have occurred if some of the houses had been made larger. This was recognized by the Forest Service after the project had been in operation for a short time. But other needs of most isolated families are not so easily met in a forest community. The Drummond Project probably suffered some because of the attempt to accommodate families needing relocation rather than rigorously selecting those best adapted to forest work.

Forest, or forest-farm, communities may be desirable in certain places and

under certain conditions, but the opportunity for relocation of isolated settlement and the provision of skilled forest workers through the same program should not be over-estimated.

Especially Skilled and Reliable Labor Force Neither Developed by the Community nor Needed by the Forest Service. Under the circumstances that developed, the project was of little benefit to the Forest Service as a supplier of forest labor. This was primarily because the funds available to the Forest Service for hiring forest workers were not as great as anticipated. Only by giving the Drummond section of the National Forest an undue proportion of the restricted funds available for the region was it possible to employ Drummond Project families on both high and moderate priority work. Low priority work—which still might have been economically justified—could not be financed, thus limiting work opportunities for community residents.

It appears also that project residents did not achieve the general skill and reliability as a working group that the project planners had predicted. Many individuals were top-notch workers and the general level of workmanship was entirely satisfactory but no special esprit de corps seemed to develop from the fact of community residence or group work. Part-time, instead of full-time, forest work may have been a factor in this. Also, the difficulty of getting enough suitable families for the community prevented any rigid selection on the basis of skill as forest workers.

When the project was started, the development and maintenance work needed in the National Forest was estimated to be enough to supply all the workers in the area who were suitable for forest work with nearly full-time employment. The amount of development and maintenance work in the forest which was

economically justifiable may or may not have been over-estimated. Such estimates are necessarily a matter of opinion and must be based on a technical knowledge of probable timber production resulting from given amounts of labor input and on a prediction of what financial returns can be expected per unit of timber when it is grown. Supplementary income or value resulting from recreational development is also to be considered. In any case what data are available seem to indicate that the work estimated as needed was several times greater than could be paid for by the appropriations since received from Congress.

Two factors, however, resulted in less work being available for community residents than could reasonably have been expected. One was the large amount of forest work done by the CCC and WPA. Some of the men in these camps were home boys but many came from outside the area, thus reducing the work available for those inside. Drummond project members were apparently not eligible for CCC or WPA work since they were considered wards of the Forest Service. Yet, because money was appropriated for forest work to be done by the CCC and WPA, the regular appropriations of the Forest Service were reduced, thus limiting sharply the funds available for wages to project members. This became particularly serious as the depression dragged on longer than expected. The other factor reducing work available for community members was the necessity for drawing families from outside the forest work area for residence in the community. This was not anticipated at the beginning and increased the number of workers for the available jobs.

Another problem affecting the need of the Forest Service for project workers was the location of the community with

relation to available forest work. The community was located near an already established neighborhood of part-time farmers and relatively near the village of Drummond. However advantageous this may have been with regard to social contacts and provision of public services, it did result in a mal-distribution of workers with respect to the work needed in the various parts of the National Forest. Consequently, it was frequently difficult to provide adequate work within reasonable distances of the community. Thus it appears that, with the community located where it was and under the conditions that developed, the Forest Service had little or no need of the project as a supplier of forest labor.

Provides Limited Evidence on Part-Time Farming. While successful part-time farming was definitely not achieved by more than a few of the Drummond Project residents it must be agreed that the conditions all but precluded the possibility of success in this field.

To begin with, only five acres per farm were cleared for crops and five acres had the brush removed for pasture. Five acres, devoted to intensive crops such as berries or truck crops, with chickens and a cow or two, might provide a substantial part-time farming operation. This is what the project planners had in mind. But the farmers of northern Wisconsin—especially the isolated, low income farmers—have had little experience with commercial, intensive farming. Following usual farming methods the families could not be expected to do much more than to supply themselves with their own dairy products and other agricultural commodities. It is impossible to say whether the employment of a farm advisor for a longer period than was done might have encouraged the production of intensive crops to any extent.

Another limiting factor was the soil which is only moderately productive. It is a sandy loam of fair fertility but very stony in places. Many of these stones were apparently not removed in the clearing operations carried out by the government, and many families were not themselves anxious enough to farm to pick the rest of the stones and to remove the numerous remaining tree roots.

It is possible that the problems of acreage limitation and of the presence of stones and roots might have been partially met if some method had been adopted for compensating families for any clearing or other improvements on the land which they might have carried out. It is not likely, however, with twenty acres as the total acreage of each farm, that this would have greatly increased the farming operations of many families.

The attitude of many families toward farming has also been an important factor. Farming in the cut-over area of the Lake States has been almost universally a low income occupation. Even those farming on practically a full-time basis tend to take advantage of any non-farm work opportunities that come along, since such work seems to bring better returns than farming. In a situation such as that at Drummond it was natural, therefore, for residents to look to the government for more forest work rather than to be interested in expanding farm operations.

Recognizing this lack of interest in commercial farm operations on the part of most families, it might have been wise to make some of the tracts much larger and with more cleared acres for those who wanted to farm and to have left the others with little more than a garden plot.

Lack of farm machinery during the early years of the project seems also to

have hindered farm operations. Most families had very few tools of their own and little was furnished by the government until 1939-1940. But the community was almost fully occupied by mid-1938 and the exodus to outside jobs began in the latter part of 1940. Thus most families were handicapped for tools during the early, and perhaps critical, period of their residence.

Another reason why Drummond was not a good test of the desirability of combining forest and farm work is that forest development work, such as planting young trees, is more likely to conflict seasonally with farming than is the harvesting of timber. Even if serious conflicts occurred in a forest development and maintenance project such as Drummond this would not necessarily be the case in a project where substantial acreages of timber could be harvested each year.

There are definite advantages in combining forest work with farm, recreational, or other non-forest work in the cut-over areas of the north. It may frequently make possible communities large enough for efficient provision of schools, roads and other public services and for adequate social contacts even where the forest work in itself would not support them. Agriculture and forestry have been closely associated throughout the history of the north, and doubtless will continue to be, but the Drummond experience points to no definite conclusions regarding the most desirable combination of these activities in the various localities and situations.

Careful and Realistic Appraisal of Future Income Opportunities Chief Consideration in Community Planning. The experience at Drummond emphasizes the necessity of making sure that income opportunities

sufficient to maintain reasonable living standards and meet the competition of outside areas will be available during good times as well as bad. The project did provide an opportunity for many families to improve their economic position and raise their standards of living during a period in which other opportunities were extremely limited. But it did not result in a permanent community. The assistance it rendered families was at great cost and it was not of any special benefit to the Forest Service in the provision of forest labor.

Two fundamental errors were made. Inadequate farming opportunities were provided, if reliance was to be placed on farm production for anything like half of the family incomes. And second, families were moved into an area where the actual work opportunities, as made available by congressional appropriation, could easily have been absorbed by families already there. It may even have reduced the work available to some families who were in as great need of it as project members and, to this extent, merely shifted the incidence of underemployment rather than solving it.

Many factors must be considered in connection with possible future communities of this type, but the principal requirement should always be the reasonable certainty of adequate and reliable sources of income. It is unwise to plan permanent developments of this type with primary dependence on discretionary annual appropriations by legislative bodies, as was done at Drummond. More reliable sources, such as harvesting merchantable timber or the sale of standard farm products which can be produced economically under the proposed conditions, should be available for most of the anticipated income.

Another Step Towards Uniform Freight Classification

By FRANK L. BARTON*

IN line with its oft-repeated statement that railroad freight classification throughout the United States should be on a uniform basis, the Interstate Commerce Commission has found that such uniformity is desirable and that respondent carriers shall be given a reasonable time to initiate and submit a lawful uniform classification before the Commission undertakes the task.¹

The findings were made on the basis of two allied proceedings, both of which were instituted on the Commission's own motions in 1939. The first, Docket 28310, titled *Consolidated Freight Classification*, is an investigation of description of articles, carload minimum weights, and ratings on articles in Official, Illinois, Southern and Western Classifications applicable to transportation of property in interstate or foreign commerce by common carrier by railroad or water, subject to the Interstate Commerce Act in the entire United States.

The companion proceeding is Docket 28300, *Class Rate Investigation, 1939*, concerning interstate class rates, both rail and water, applicable in the United States east of the Rocky Mountains which includes all rate territories except Mountain-Pacific. Docket 28300 includes all class rates applicable in the area under investigation, that is, those rates determined by ratings contained in the four classifications within the scope of Docket 28310.² Classification exceptions and commodity rates were not embraced in the proceedings. The

two dockets were combined because the intermingled aspects of freight classification and class rates cannot logically be considered separately. This is true because the amount of a class rate is determined generally by the application of the percentage rating assigned an article to the first-class rate scale.

Among the broad objectives of the investigations, as announced by the Commission, was consideration of "whether the establishment throughout the United States of a rail and water freight classification, simplified and uniform, or more nearly uniform when compared with existing classifications, would be lawful and practicable."

Although the investigations were initiated nominally on motions of the ICC, the prime mover was Congress. The Transportation Act of 1940 amended Section 3(1) of the Interstate Commerce Act to make unlawful various discriminations against "region, district, territory." There was likewise a provision known as 5(b) of the 1940 Act that directed the Commission to investigate rates on manufactured products, agricultural commodities, and raw materials between and within classification territories for the purpose of determining whether such rates were lawful, and to enter appropriate orders for the removal of unlawfulness found to exist. The ICC has indicated to Congress that these proceedings are a first step in response to this legislation.³

This article will attempt to deal with freight classification as the Commission

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¹ For a discussion of the earlier efforts of the Interstate Commerce Commission to obtain uniform freight classification since approval of the Act to Regulate Commerce of 1887, see Frank L. Barton, "Uniform Freight Classification and the Interstate Commerce Commission," *Journal of Land & Public Utility Economics*, August 1942, p. 312.

² A single report of the ICC covers both Dockets 28300 and 28310 and may be found at 262 I.C.C. 447 (1945).

³ See 262 I.C.C. 447, 513, 689 (1945). For a review of this legislation see Frank L. Barton, "Background of the Class-Rate Investigation," *Southwestern Social Science Quarterly*, December 1940, p. 197.

found it in the course of the investigations and with the changes indicated as necessary by the Commission to make classification lawful and suitable for present-day use. Treatment of the class-rates included in the combined proceedings will be limited to those matters necessary to clarify the freight classification matters touched upon.

I. Application of Various Freight Classifications

There are three major freight classifications, Official, Southern, and Western, each having intraterritorial and interterritorial application. These classifications contain rules relevant generally to freight traffic as well as the ratings for determining class rates; their application is determined by specific reference thereto in rate tariffs.

Illinois Classification is counted as a minor classification because it has limited interstate application and has no application on interterritorial traffic. It is used in the area between Official and Western territories, and governs, in addition to Illinois intrastate traffic, the class rates between Illinois and points in the Indiana portion of the Chicago switching district, and freight traffic between Illinois points moving over routes partly in Indiana, on which it authorizes charges over intrastate routes between the same Illinois points lower than provided at interstate rates governed by Official Classification.

The intraterritorial application of the major classifications is generally as follows: Official Classification applies between all points in Official Territory, which lies generally east of the Mississippi River and north of the Ohio and

Potomac Rivers—including most of Virginia; Southern Classification is applicable in Southern Territory, located south of Official Territory and east of the Mississippi River; and Western Classification, effective in Western Territory, located west of the Mississippi River, and composed of Western Trunk-Line, Southwestern, and Mountain-Pacific rate territories.

The interterritorial application of these classifications, much more complicated than their intraterritorial application, is shown in general terms in the three paragraphs following.

Official Classification applies to class rates from Western Trunk-Line Territory, including the "Northwest,"⁴ Wyoming, Utah Common Points, and intermediate Utah stations east of those points, to Official Territory east of Illinois; from Official Territory east of Illinois to the Northwest; and between⁵ Official Territory and certain points in northeastern Kentucky and southwestern Virginia.

Interterritorially, Southern Classification governs class rates between Official Territory and Southern Territory (excepting the Kentucky and Virginia points named above to which Official Classification applies); and from Western Trunk-Line Territory, including the Northwest and southern Missouri, to Southern Territory.

In its interterritorial application Western Classification is used in connection with through class rates between Mountain-Pacific Territory, including transcontinental traffic, and Official and Southern Territories (except from Wyoming and Utah as described subject to Official Classification); from Official Ter-

⁴The Northwest is defined as that part of Western Trunk-Line Territory on and east of the Northern Pacific Railway running from Duluth to Hinckley, Minnesota, thence the Great Northern Railway to Twin Cities, Minnesota, thence east of the Mississippi River but including west-bank crossing points. It thus includes a narrow strip

of Minnesota, Wisconsin, except a part in Illinois territory, and the Upper Peninsula of Michigan. 262 I.C.C. 447, 458 (1945).

⁵In transportation jargon "between" means from either territory named to the other territory named.

ritory to Western Trunk-Line Territory, except the Northwest; between southern Missouri and Official Territory; from Southern Territory to Western-Trunk Line Territory, including the Northwest and southern Missouri; from Western Trunk-Line Territory to Illinois Territory, which is made up of Illinois and southeastern Wisconsin embraced in Official Territory; and between Southwestern Territory and Official and Southwestern Territories.

The four rail freight classifications are published in a single volume entitled, *Consolidated Freight Classification*. Uniform in all the classifications are the descriptions of the articles offered for transportation, including the containers required, and rules, and packing descriptions. Following the descriptions of articles are three parallel columns showing, in order, the less-than-carload ratings, carload minimum weights (or designation of "any-quantity"), and carload ratings. If the rating is uniform, a single designation appears in the respective rating column; in the absence of uniformity, three ratings are given for Official (including Illinois), Southern, and Western classifications, respectively. Where the Illinois rating is different from that in Official four ratings are shown, with Illinois following the Official rating.⁶

The so-called "regular," numbered or letters classes appearing in the various freight classifications have been prescribed by the Interstate Commerce Commission in various proceedings, except those in Illinois Classification. The regular class designations and their percentage relationships to first class (also

termed class 100) in the several rate territories are shown in Table I.

In addition to the regular classes, there are a number of other classes in Official, Southern, and Western classifications. There are seven classes higher than first $1\frac{1}{4}$, $1\frac{1}{2}$, $1\frac{3}{4}$, 2, $2\frac{1}{2}$, 3, and 4 times first class. All classes in the major classifications (including those above first class, the regular classes, and other percentages less than first class) total as follows: Official, 27; Southern, 28; and Western, 26. The range of all classes is 4 times first class to $17\frac{1}{2}$ percent of first class.⁷

From an exhaustive analysis of the *Consolidated Freight Classification* in effect on August 3, 1942, some general conclusions concerning classification were drawn. The sets of ratings on article descriptive items and sub-items on which at least one of the three major classifications provide ratings totalled 20,916. Of these ratings 83 were any-quantity, 10,151 less-than-carload, and 10,682 were carload ratings.⁸ Of the total, 4,077 were stated as percentages of first class, or class 100. Unique among the items were 11 items of railway cars moving on their own wheels on which rates were named in cents per car-mile.

Table II shows the degree of uniformity in any-quantity, less-than-carload, and carload ratings in the three major classifications; omitted are the items on which any one of the three major classifications does not provide a rating.

The less-than-carload ratings showed greatest uniformity with 85.08 percent uniformity, followed by any-quantity with 80 percent uniformity in the three classifications. Carload ratings were last with 36.27 percent uniformity and 22.92 percent unlike in any two classifications.

⁶ Illinois Classification ratings are generally the same as Official but not uniformly so. It is said that Illinois ratings are adopted from the classification applicable in the territory from which Illinois shippers receive their principal competition. As the Illinois Classification is relatively unimportant attention here is devoted mainly to the three major freight classifications.

⁷ Classes not regular classes expressed as percentages of class 100 are known as "percentage" classes.

⁸ See Appendices 4 and 5, beginning at 262 I.C.C. 734, for the complete analysis of classification ratings, including any-quantity and less-than-carload ratings, and carload ratings.

As pointed out previously, the range in classification is from 17½ percent to 400 percent of first class, but the bulk of the items are in a relatively few classes. In Official Classification less-than-carload ratings were found in 16 classes, but 85.65 percent were in the first 5 regular classes. A similar distribution was found in Southern Classification with 85.96 percent in the first 5 classes. In Western Classification less-than-carload ratings appeared in 12 classes with 90.13 percent in classes 1, 2, 3, and 4.

Ratings on carloads were scattered more widely. The distribution was among 21 classes in Official, with 72.32 percent of the items in classes 70, 55, 40, and 35.

In Southern Classification these ratings were distributed among 23 classes with 74.34 percent of the items in classes 70, 55, 45, and 40. In Western Classification carload ratings appeared in 21 classes; 81.52 percent of the items were concentrated in classes 70, 55, 45, and 37½.

Examples of substantial classification disparities that exist on individual items in carloads are significant. On certain items given class 35 in Official, ratings in Southern and Western Classifications range from classes 17½ to 55. On items of class 40 rating in Southern, the range in Official is from 27½ to 70 percent of first class, and in Western from 17½ to 40. In Western Classification items

TABLE I. REGULAR CLASS DESIGNATIONS AND THEIR RELATION TO FIRST CLASS IN THE VARIOUS RATE TERRITORIES

Percent of class 100	Regular Class Designation				
	Official	Illinois	Southern	Western	
				Western Trunk Line and South-western Territories	Mountain-Pacific Territory
100.....	1	1	1	1	1
85.....	2	2	2	2	2
70.....	3*	3	3	3	3
60.....					4
55.....	R26	R26	4	4	
50.....	4	4			5, A
45.....			5	A	
40.....		A	6		B
37½.....				5	
35.....	5	5	7		
32½.....		B		B	
30.....			8	C	C
27½.....	6	6, C			
25.....			9		D
22½.....		D	10	D	
20.....		E	11		E
17½.....			12	E	

Source: *Class Rate Investigation, 1939*, 262 I.C.C. 447, 467. (1945).

* Formerly official classification provided rule 25 ratings, for which 70 percent of class 100 was prescribed in the eastern revision. It has been replaced by class 3 in the classification, although it may still appear in some tariffs.

rated class 45 have ratings in Official from 27½ to 85 and in Southern from classes 30 to 55.

Mathematically there is only slight difference on the whole between the major classifications. The weighted general averages of the percentage relation to first class of all ratings are 67.91 for Official, 67.82 for Southern, and 68.70 for Western. Southern and Western shippers favoring adoption of the Official Classification for nationwide use would, however, probably not be impressed by this near mathematical equality.

II. Current Freight Classification Practice

The Commission, in its decision, commented that comparatively little use has been made by the rail carriers of the percentage columns (other than the regular classes) prescribed to give flexibility to the classification. Flexibility has usually been accomplished by exceptions to the classification, thereby removing the commodity from the classification and assigning it a rate in a special tariff.

To show the effect that classification differences have upon rates prescribed in the territories east of the Rocky Moun-

tains, a number of comparisons were offered.⁹ For instance, the 616 items given class 55 rating in less-than-carloads in Official Classification, moving at a rate of 44 cents per 100 pounds in Official Territory, are accorded ratings from classes 40 to 85 in Southern Classification, with the rates varying from 45 to 95 cents in Southern Territory. In Western Classification the same articles are assigned classes ranging from 55 to 85, with the rates for 200 miles in Western Trunk Line Zone I ranging from 53 to 82 cents. Even when the ratings are the same in different territories, the rates differ substantially because of the difference in territorial rate levels.

The Commission noted that the importance of the various freight classifications (the ratings of which are determined by the several classification committees) as factors in determining freight charges by rail has lessened because of the use of classification exceptions and the use of commodity rates, both of

⁹ See Appendices 2 and 3, 262 I.C.C. 731, for these territorial comparisons. Rates for 200 miles are used (the approximate average haul of revenue freight by Class I railroads), including the 10 percent general increase of 1938, *Ex Parte* 123. The ratings are those in effect August 3, 1942, with some for March 17, 1942.

TABLE II. DEGREE OF UNIFORMITY IN CLASSIFICATION RATINGS IN THE MAJOR FREIGHT CLASSIFICATIONS

	Any Quantity		Less than Carloads		Carloads		Grand Totals	
	Number of Ratings	Percent	Number of Ratings	Percent	Number of Ratings	Percent	Number of Ratings	Percent
Totals.....	80	100.00	10,134	100.00	10,664	100.00	20,878	100.00
Uniform in the 3 classifications.....	64	80.00	8,622	85.08	3,868	36.27	12,554	60.13
Alike in—								
Official & southern..	67	83.75	9,343	92.18	5,114	47.96	14,524	69.57
Official & western..	76	95.00	8,876	87.59	4,522	42.40	13,474	64.53
Southern & western..	64	80.00	8,822	87.05	6,320	59.27	15,206	72.83
Unlike in any 2 classifications.....	1	1.25	337	3.32	2,444	22.92	2,782	13.33

* Source: *Class Rate Investigation, 1939*, 262 I.C.C. 447.

which are determined by individual carriers or groups of carriers upon principles usually different from those used in determination of classification ratings. The principal reasons for the establishment of classification exceptions are these: (1) to meet truck and other competition; (2) for convenience and expedition in publication of rates; (3) to insure a more restricted application of certain rates; (4) to reduce the differences between class rates and between carload and less-than-carload rates; (5) and to provide a quicker and more convenient method of complying with Section 4 of the Interstate Commerce Act. Many exceptions to the classification are published as percentages of first class that give charges lower than are obtained by use of the classification ratings.

Aside from that of Southern Territory much of the less-than-carload traffic moves on classification ratings. On carloads the exceptions have superseded the classifications to a great extent throughout the United States. To even a greater extent commodity rates govern the movement of carload traffic within and between the several rate territories. The proportions of carload traffic moving on class rates, classification exceptions, and commodity rates are indicated in Table III.

The figures shown in Table III were compiled from a tabulation of rail waybills for a single day, September 23, 1942, showing the number of carloads of each commodity moved in the United States on that day. This one-day study is one of several such studies made by joint efforts of the Office of Defense Transportation and the Interstate Commerce Commission. The Commission, in its report, raised the question of the adequacy of these data and commented on the paucity of information in this area with the conclusion that no better

information is available. Because of the tremendous effort and expense required of both the carriers and the government agencies involved to obtain the information for even one day, a more complete survey during the war was probably impracticable. The tabulation has a further weakness in that the kind of rate (class, exception, or commodity) on which the traffic moved is not revealed. To supply this deficiency the nature of the rate was supplied by the ICC Bureau of Traffic "according to the most probable rate charged."

Another shortcoming is that the study was made during the war when the traffic pattern was abnormal both as to composition of the traffic and points of origin and destination involved.

To gain an idea of the relative overall importance of the use of classification ratings in conjunction, of course, with class rate scales to determine freight rates when compared with exceptions and commodity rates, examine the figures in the last line of Table III. This discloses that throughout the United States only slightly more than 4 percent of the volume of rail traffic moves on class rates as compared with 10 percent moving on classification exceptions and over 85 percent on commodity rates.

III. *Position of Carriers and Shippers on Uniform Freight Classification*

As might be expected, the respondent carriers opposed uniform freight classification. The carriers contended that great headway has been made toward unifying the three major classifications, citing the fact that the ratings on virtually all articles in the three classifications having ratings of class 70 or higher are uniform. Also that classification ratings are established in conjunction with interested shippers after public hearings by the Consolidated Classification Com-

mittee. It was noted by the carriers that many ratings have been prescribed by the Commission.

Further, the carriers claimed that a classification is composed of a number of individual items and that the ICC is not warranted to require changes leading to

uniformity unless evidence is presented on each item. Obviously the presentation and consideration of evidence on such a basis would be an almost endless task.

The shipping public was invited to appear at the hearings on Dockets 28300 and 28310 but failed to do so on

TABLE III. DISTRIBUTION OF CARLOAD TRAFFIC ON SEPTEMBER 23, 1942, MOVING ON CLASS, EXCEPTION, AND COMMODITY RATES WITHIN MAJOR RATE TERRITORIES AND INTERTERRITORIALLY IN THE UNITED STATES

Territories (within, or From One to Another)	Class Rates	Exception Rates	Commodity Rates
	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
Official.....	5.8	17.6	76.7
Southern.....	1.8	6.0	92.2
Western trunk-line.....	0.6	0.2	99.2
Southwestern.....	2.4	4.4	93.2
Mountain-Pacific.....	1.7	*	98.3
Official to southern.....	12.6	36.3	51.1
Southern to official.....	0.9	4.9	94.2
Official to western trunk-line.....	12.3	35.4	52.3
Western trunk-line to official.....	3.1	1.0	95.1
Official to southwestern.....	22.5	52.0	25.5
Southwestern to official.....	1.5	3.4	95.9
Official to mountain-Pacific.....	11.3	*	88.7
Mountain-Pacific to official.....	0.7	.....	99.3
Southern to western trunk-line.....	1.5	13.5	85.0
Western trunk-line to southern.....	6.1	3.1	90.8
Southern to southwestern.....	6.1	22.1	71.8
Southwestern to southern.....	1.2	4.3	94.5
Southern to mountain-Pacific.....	4.1	4.9	91.0
Mountain-Pacific to southern.....	1.5	0	98.5
Western trunk-line to southwestern.....	13.0	6.2	80.8
Southwestern to western trunk-line.....	2.0	3.0	95.0
Western trunk-line to mountain-Pacific.....	2.6	0	97.4
Mountain-Pacific to western trunk-line.....	0.7	0	99.3
Southwestern to mountain-Pacific.....	3.9	0	96.1
Mountain-Pacific to southwestern.....	2.1	0	97.9
All territories to official.....	4.8	14.4	80.8
Official to all territories.....	6.7	19.4	73.9
All territories to southern.....	4.1	11.9	84.0
Southern to all territories.....	2.1	6.2	91.7
All territories to western trunk-line.....	2.3	5.4	92.3
Western trunk-line to all territories.....	1.7	0.6	97.7
All territories to southwestern.....	5.6	10.6	83.8
Southwestern to all territories.....	2.0	3.9	94.1
All territories to mountain-Pacific.....	3.3	0.2	96.5
Mountain-Pacific to all territories.....	1.5	*	98.5
All territories to all territories.....	4.1	10.0	85.2

Source: *Class Rate Investigation, 1939, 262 I.C.C. 447.*
* Less than 0.05 percent.

any large scale. The carriers stated that because of the indifference of the public sufficient evidence has not been presented upon which the Commission can conclude that any of the thousands of ratings are unlawful.

Moreover, the carriers asserted there have been no departures from the recognized principles of freight classification that make the classification obsolete or that warrant the ICC to prescribe a new or revised classification. As their clinching argument the respondents stated that there has been no general desire on the part of those who use the various freight classifications for uniformity in classification ratings.

A statement of the principles upon which articles are assigned classification ratings was requested by the Commission. In answer these elements were indicated by the railroad classification committees: Weight of the article per cubic foot, liability to damage, liability of damage to other goods with which loaded, value per pound, comparison with competitive articles, possible movement in carloads, characteristics of the article as packed in using capacity of cars, commercial conditions and units of sale, trade conditions, and value of transportation service.

The Commission found that the relative weight given these elements has changed during the years. When the railroads had practically a monopoly on transportation, value of service (what the traffic will bear) was given greatest consideration. With the development of competitive transportation agencies that attached less significance to value of the traffic, the rail classification committees have altered their policies with the result that generally weight density is now the dominant element in assigning rail classification ratings.

After reviewing the evidence on freight classification submitted by the respondent

carriers the Commission concluded that the hope was in vain that such evidence would allow the translation of classification elements into a formula for the determination of lawful classification ratings. This conclusion was based on a number of facts, including those that articles varying greatly in value and weight density are placed in the same class and that even the average percentage relations to first class of all articles in the respective classes are sometimes higher for the greater densities and lower values than for the lesser densities and greater values. These facts demonstrate that value and density of articles in freight classification cannot be used in a fixed formula to determine classification ratings, and that classification is dependent in the final analysis upon the subjective element of judgment. The Commission apparently agreed with rail carriers' contentions that "the sound judgment of experts in this field" is the determining factor in freight classification. In other words, classification is an art and not a science and is practiced under different basic concepts in the various railroad freight classification committees.

Shippers and public bodies either opposed or favored uniform classification in accordance with its effect on their selfish interests. Those in Official Territory opposed such uniformity generally on the grounds that, although it may be desirable, it is not practicable because of the effects on carriers' revenues, upon relations between shippers, and because transportation conditions are different in the various territories. Translated, this means that Official Territory has an advantage of a lower level of class rates than either Southern or Western Territories and intends to keep this advantage if possible.

Certain manufacturing interests in the South, represented by the Southern

States Industrial Council, opposed revision of either Southern Classification or class rates. This group declared that no evidence was introduced to aid the Commission in formulating a uniform classification and that uniform class rates would unfavorably affect southern industry. Looking behind this argument one may find that this group has the advantage of a number of favorable commodity rates for the movement of its products and fears that readjustments in classification and class rates may result in increasing these commodity rates.

In the vanguard of those that favor uniform freight classification was the Southern Governors' Conference, appearing on behalf of the states comprising Southern Territory. The Southern Governors contended that the present freight classifications and class-rate structure used by the South no longer meet the needs of commerce and are unreasonable and unduly prejudicial. While a uniform classification is being drawn up, the extension of Official Classification to apply within the territory east of the Mississippi River was suggested. Similar positions were taken by the Southeastern Association of Railroad and Utilities Commissions and the Southern Traffic League. The reason for the stand of these groups is plain: Official Territory has a more favorable situation in regard to classification and class rates than Southern Territory, and these groups want the same advantages for the South.

Various groups of shippers in Southern, Southwestern, and Western Trunk-Line states, regulatory bodies of the states of Southwestern Territory and several Western Trunk-Line states, American Farm Bureau Federation, motor carrier interests, and the Tennessee Valley Authority advocated without

qualification a uniform freight classification. The position of this group is probably more sound than that of several states that asked merely that Official Classification be extended for their use. In this latter group were Iowa, Minnesota, and Wisconsin.

Most of the groups opposing uniform classification followed the familiar technique of claiming that the ICC could certainly not prescribe uniform classification on the insufficient evidence before it and recommended that large additional amounts of data be presented and analyzed. The years required to carry out such a procedure would certainly vitiate any classification or rate investigation.

Needless to say, those favoring uniform classification introduced voluminous evidence showing the effect of the lack of uniformity upon shippers in the South and West and the extent to which the classifications have been rendered useless by the establishment of classification exceptions and commodity rates.

Motor carriers, represented by the American Trucking Associations and several motor rate bureaus and conferences, urged the prescription of a nationwide freight classification for the use of all carriers subject to the Interstate Commerce Act. The motor carriers urge the use of a clear-cut, precise formula to be applied uniformly in determining ratings. Examination of the truckers' plan indicates that less-than-carload ratings would be raised substantially. This reflects the motor carriers' desire to raise rates on the traffic to which trucks are most suited, which rates the truckers maintain are so low on the railroads that they are a source of loss to the rail carriers. The Commission rejected as impracticable the use of a formula such as that propounded by the motor carriers.

IV. *Conclusion and Findings of the ICC on Freight Classification*

The Commission noted that under various sections of the Interstate Commerce Act it is empowered and directed to determine whether present classifications of freight are unlawful and, if they are unlawful, to require the establishment of a lawful classification. It was also pointed out that in this proceeding there is no evidence that would allow the determination of whether any particular classification rating is unreasonable. It was noted, however, that an ample record exists on the effects of ratings upon the charges paid by shippers and the extent to which the classifications have been displaced by exception ratings and commodity rates.

The decision emphasized that, while some progress toward uniformity has been made since 1887, much of the uniformity is theoretical rather than actual because classification exceptions provide thousands of ratings lower than provided for by the classification. It was also recognized that uniformity is generally less in carload than in less-than-carload ratings for a number of reasons: because the relations between classes lower than 70 percent of first class, in which most carload ratings are found, are different in the major classifications; because the number of regular classes in the classifications varies; and because of absence of a class in one classification whose percentage relation to class 100 is the same as that of a class in another classification.

The differences in ratings on an article have been brought about by revenue needs of the carriers, by variations in rate levels, by carrier competition, by shipper influence, and by the multifarious findings of the several classification committees, so the Commission found.

On the desirability of classification uniformity, the ICC commented that few question it. The contention is that it is not practicable and is built on the fear that if uniformity is adopted numerous ratings will be reduced, adversely affecting carrier revenues; also, that shippers having favorable relationships now established will lose some advantage. Offered as justification for variations in ratings are unlike conditions in the territories, and the claim that present classifications reflect transportation needs and that classification methods are claimed to be sensitive to changing conditions. The Commission remarked that those opposed to uniformity assert that a uniform classification to meet prevailing conditions would require many exception ratings and commodity ratings—consequently the situation would remain the same as at present.

Calling attention to one great advantage of uniformity, the decision pointed out that such unification would remove serious complications brought about by interterritorial class rates which spawn complicated tariffs, many instances of undue preference and prejudice, departures prohibited by Section 4 of the Interstate Commerce Act, and freight rates different in opposite directions between the same points.

The Commission concluded that a number of factors have contributed to depriving the classification ratings of their proper functions as borne out by the small total volume of traffic moving on class ratings and "it is clear that the existing classifications are outmoded and should be revised." As to the allegedly different conditions put forth as insurmountable obstacles to uniformity (principally competition, variations in rate levels, and different territorial traffic patterns), the Commission held that none of these justifies unlike ratings in differ-

ent territories. Exceptions, it was stated, may be necessary because of competition but such competition should not be given weight in providing classification ratings.

Commodity rates and exceptions have been used to lessen the rate disadvantage of shippers in territories with higher class-rate levels. In addition, the Commission's report held, classifications are not the correct media for counteraction of such rate levels; the proper remedy is by changing the rate scales. It was conceded that lower rates, where justified, may properly be brought about by exceptions or commodity rates in a portion of a territory but exceptions applicable to an entire territory are not justified. The ICC remarked that it would be unusual if the conditions justifying a territory-wide exception ended abruptly at the territorial boundaries.

In regard to the principal objection of the railroads to uniform classification—that it may adversely affect their revenues—the Commission stated that sufficient revenues are essential but revenue needs should not be met by practicing undue preferences and prejudices in ratings. The proper method to provide the necessary funds is by rate levels high enough to meet the needs. "The aim for uniformity is not merely for the sake of uniformity, but to remove the resulting unjust differences in rates." The decision held that no sound reason has been given by the rail carriers why there should not be uniformity in ratings throughout the United States; the fact that uniformity has progressed to the present degree is proof that it is practicable.

The plea of the rail lines and Official Territory shippers that each rail classification committee be allowed to continue to determine ratings according to conditions present in their respective territories was not accepted by the ICC for the reason that each classification has

extensive interterritorial application, requiring familiarity by the committees with conditions in several territories. Further, there are vast differences throughout single territories. For instance, despite the differences between North Dakota and southern California in Western Territory, ratings have been determined for use throughout that territory. Further evidence of inconsistency is the development of varying classifications for different portions of homogeneous regions, like the Ohio and Mississippi River Valleys, in which conditions are not shown to vary. One classification committee could decide upon uniform ratings in conformity with the standards of the Interstate Commerce Act, so held the Commission.

What single classification best comports with statutory requirements for uniform application throughout the country? The Commission answered this by indicating that Official Classification is the pattern to be used, in which should be included the added classes (largely ignored by the carriers at present) expressed as percentage columns set forth in the Commission's report in the *Eastern Class Rate Investigation*.¹⁰ Re-rating of Official Classification by examination of the various exceptions upon their merits and the weaving of these into the classification was found to be necessary.

The contention was held in error that the ICC could not require a change in any of the classification ratings because evidence was not received concerning individual items of traffic. Ample evidence was received that individual shippers, because of classification differences, are compelled to pay rates that are relatively higher than rates paid in either, or both, of the other classification territories. General findings may

¹⁰ 164 I.C.C. 314, 373 (1930); 171 I.C.C. 481, 499 (1931).

be made as to whole classifications or territories was the ruling of the Commission.

The decision pointed out that the primary purpose of a freight classification is to assign articles, or groups of articles, to a class in accordance with classification principles, none of which should be controlling, but all that are relevant should be considered. Concerning these classification elements, the Commission said:

"Among them are: Weight per cubic foot and value per pound as packed for shipment; liability to loss, damage, waste, or theft in transit; likelihood of injury to other freight with which it may come in contact; risks due to hazards of carriage; kind of container or package as bearing upon the matter of liability or risks; expense of, and care in, handling; ratings on analogous articles; fair relation of ratings as between all articles; competition between articles of different description but largely used for similar purposes; commercial conditions and units of sales; trade conditions; value of service; volume of movement for the entire country in either less than carloads or carloads; adaptability to movement in carloads; and carload minimum weights just to carriers and shippers. These transportation characteristics would be substantially similar on most articles irrespective of the territory in which the movement occurs."¹¹

As it is true that the basic considerations on which to determine classification ratings are generally the same throughout the country, according to the decision, it follows that where differences in transportation conditions "from a geographic standpoint" are significant enough to require expression in the rate structure, the means of expression should be in the levels of rates, supplemented by a limited number of exception ratings, and not in the basic freight classification. It was significantly stated that "the use of classifications to accomplish such purposes inevitably leads to inequitable and indefensible results."

In positive terms the Commission asserted that in view of the disparities that exist in the several classifications and because of the departures from the standard classification ratings by an ever-increasing number of exception ratings, in addition to additional facts of record, the three major classifications and Illinois Classification do not meet the legal requirements, either for the present or the future.

In view of the evidence the Commission found that the respondents should establish "within a reasonable time" a uniform freight classification having these 30 classes: 400, 300, 250, 200, 175, 150, 125, 100, 92.5, 85, 77.5, 70, 65, 60, 55, 50, 45, 40, 37.5, 35, 32.5, 30, 27.5, 25, 22.5, 20, 17.5, 16, 14.5, and 13. From an examination of Table I it may be observed that these classes include every class rating in the four classifications and in addition four classes intermediate to existing classes: 92.5, 77.5, 65, and 60. Three classes lower than the lowest class rating were prescribed: 16, 14.5, and 13.

The respondent rail lines were given ninety days to indicate whether they would undertake to make and tender a uniform classification based upon the findings of the ICC, with jurisdiction retained by the Commission to make an appropriate order if the railroads decline or fail to respond. The railroads have indicated their willingness to prepare and submit a uniform classification but have not indicated the length of time considered necessary to complete the task. In dissenting Commissioner Porter has said at least 10 years would be required.

The findings in Docket 28300 also included a uniform scale of first class rates, known as "Appendix 10 Scale"¹²

¹¹ The scale is set forth in Appendix 10 of the *Report on Dockets 28300 and 28310*. 262 I.C.C. 447, 766 (1945).

¹² 262 I.C.C. 447, 508 (1945).

approximately 15 percent above the Official scale, to be applied throughout Eastern, Southern, Southwestern, and Western Trunk-Line territories. The territory not affected is Mountain-Pacific, west of the Rockies. Presumably the class rate scale prescribed will become effective at some future date simultaneously with the uniform classification being prepared by the rail lines.

Because common-carrier water service along the coast was suspended on account of the war, the water lines did not participate in the proceedings; so rail-and-water rates will be given attention later by the Commission.

In addition to the findings for this permanent adjustment, the Commission made these findings for a temporary adjustment to be applied in the interim period before the permanent classification and class rates become effective: (1) that there shall be a reduction of 10 percent in the class rates within Southern, Southwestern, and Western Trunk Line territories, interterritorially between these territories; and interterritorially between these territories, on one hand, and Official Territory, on the other; (2) that class rates within Official Terri-

tory shall be increased 10 percent. The Commission originally ordered that these interim class rate adjustments be made effective on or before August 30, 1945. At the railroads' request the time for complying was extended to November 30, 1945, and finally to January 1, 1946. No changes were made in the use of existing freight classifications for the interim period.

From the South and West there has been generally forthcoming approval of the action of the Interstate Commerce Commission, with some complaint from western railroads that the adjustment will materially lessen their revenues. In Official Territory, within which class rates are to be increased 10 percent, the reception from shippers has been less favorable; there have been hints of legal action against the findings and order of the ICC. Whether this attitude will result in a case before the courts cannot be foretold. Taking into account the presently available signs, it is safe to predict that court action will be instituted by interests in Official Territory with the aim of preventing the Commission's interim order in Dockets 28300 and 28310 from becoming effective.

The Agricultural Flood Control Program

A Review of the Watershed Investigations and Reports

By H. H. WOOTEN*

NOW that the war emergency is over resumption of watershed programs for run-off and waterflow retardation and soil erosion prevention is again under discussion. Consideration is being given to just what watershed work will be undertaken and how it will be done under the authorizations contained in the Flood Control Acts of 1936 and 1944.¹ The results of the watershed examinations and surveys made by the Department of Agriculture just prior to the war are of considerable interest for it is evident that multiple-purpose land and water conservation measures will continue to occupy an important place in the Nation's postwar agriculture. Only a fraction of the needed work has been done.

There is an excellent objective for the watershed programs—upstream flood reduction and damage prevention through retardation of run-off and waterflow and through soil erosion control on the land. Measures, too, are relatively simple as compared to major engineering works. They include soil conservation measures, forest protection, and the like; also, some modifications and additions to meet special needs for slowing down run-off on the land, preventing movement of soil, and reducing sedimentation damages.

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¹ Flood Control Act of December 22, 1944. Public Law No. 534, 78th Congress, 2nd session. Also, Flood Control Act of June 22, 1936. Public Law No. 738, 74th Congress, 2nd session.

² Congress has approved action programs on the watersheds of 11 streams (Survey reports published by Congress are indicated by House Document numbers): Los Angeles River, Calif. (H. D. 426, 77th Congress, 1st ses-

Preparation for Resumption of Watershed Program

In resuming work on the watershed program there is a considerable volume of factual reports and informational materials with which to begin. From 1937 to 1943 the Department of Agriculture completed: (1) preliminary examinations to determine whether surveys of 154 watersheds, embracing nearly 11¼ million square miles, were justified; (2) detailed surveys to plan programs on 18 watersheds, covering nearly 100,000 square miles; and (3) flood damage appraisals for 40 additional areas in cooperation with the Corps of Engineers. In addition to completed investigations, approximately 50 examinations and 32 surveys were initiated but later deferred because of the war.

The first obligation for new work by the Department of Agriculture is to begin the action programs on the 11 watersheds previously surveyed and approved for action by Congress.² The second immediate job appears to be the completion of the 32 surveys undertaken but left incomplete during the war. Before this work can be resumed satisfactorily, however, it is very desirable to review the principles and procedures in the light of experience and to revise,

sion); Trinity River, Tex. (H. D. 708, 77th Congress, 2nd session); Little Tallahatchie River, Miss. (H. D. 892, 77th Congress, 2nd session); Coosa River, Ga. (H. D. 236, 78th Congress, 1st session); Potomac River, Va. and Md. (H. D. 269, 78th Congress, 1st session); Little Sioux River, Iowa (H. D. 268, 78th Congress, 1st session); Washita River, Okla. (H. D. 275, 78th Congress, 1st session); Middle Colorado River, Tex. (H. D. 270, 78th Congress, 1st session); Santa Ynez River, Calif. (H. D. 518, 78th Congress, 2nd session); Yazoo River, Miss. (H. D. 564, 78th Congress, 2nd session); and Buffalo Creek, N. Y. (H. D. 574, 78th Congress, 2nd session).

improve, and standardize them to guide the public and private action necessary. After policies and procedures have been tested and agreed upon, attention then should be given to examining the 400 or more additional watersheds authorized for investigation by the Congress in the various Flood Control Acts, 1936 to 1944.

The agricultural phase of upstream flood control rests initially with the Department of Agriculture and, to a large degree, the success of the future undertaking in this field depends upon the effectiveness of the planning and execution of the program as a department-wide program. Many persons, both in and out of the Department of Agriculture, familiar with development of action programs, feel that the way to good upstream flood control planning is through centralization of responsibility in the hands of the same groups in the action agencies who are to plan as well as to carry out the plans. Others equally experienced believe that there are many advantages of having the agricultural planning for upstream flood control done by a cooperative staff arrangement, headed by a departmental administrator. Watershed investigations in the Department of Agriculture have been conducted under both types of organization and combinations of them in the past. Undoubtedly, there was some good work done under both arrangements. There are many examples of splendid teamwork and accomplishment. But some of the men who have been closest to the business of conducting the detailed work of flood control surveys and of initiating action programs believe that the necessary organization for surveys should be more

simple and direct than in the past and at the same time should provide freely for the contributions of all interested agricultural groups and agencies.

The report of the Committee on Postwar Agricultural Policy of the Association of Land-Grant Colleges and Universities points out the need for developing well-integrated programs for the use and control of the waters of the various areas of the country, taking particular account of water for agricultural uses. The report also recommends creation of a single central federal water agency to coordinate the work of all federal agencies dealing with water and to develop a state-federal relationship under which no federal agency would work in any state without the knowledge and, if possible, the cooperation of the state.³

A step in the direction of outlining a water-control-and-use policy on agricultural land was taken by Secretary of Agriculture Claude R. Wickard, in an address before the Washington, D. C., section of the American Society of Agricultural Engineers in February 1945.⁴

In two recent journal articles the work of some phases of the watershed flood control surveys has been analyzed in some detail, particularly in regard to some hydrologic and economic evaluation problems.⁵ The impact of these and other expressions will induce in the reader a feeling that a re-examination of the methods for conducting the investigations is needed. Like reviews anywhere, their chief value is to point the way to improvement. Looking ahead is now more important than looking backward. In this way study of past work will result

³ Report, Committee on Postwar Agricultural Policy of the Association of Land-Grant Colleges and Universities, October 1944, pp. 45, 47.

⁴ Claude R. Wickard, "Water Policy in Relation to Western Agriculture," Paper published in *Agricultural Engineering*, April 1945, pp. 141-44.

⁵ Bernard Frank and E. N. Munns, "Watershed Flood Control: Performance and Possibilities," *The Journal of Forestry*, April 1945, pp. 236-51. Also, Bernard Frank, "Some Aspects of the Evaluation of Watershed Flood Control Projects," *The Journal of Land & Public Utility Economics*, November 1942, pp. 391-411.

in progressive betterment. Likewise, a careful look ahead in the light of the changed agricultural situation is necessary to determine what is desirable and what are the possibilities.

Effect of Changes in Agricultural Production, Technology, and Land Use

Today's watershed activities on the land face certain practical factors which must be adjusted and made consistent with other programs in order to produce a better agriculture. These factors include measures which will make possible the use and conservation of the natural resources of land and water, will prevent their damage, or will prevent them from becoming damaging agents.

How to contrive an arrangement whereby watershed flood control planning and action may proceed without overlapping other fields of agricultural planning and action has been and still is a baffling problem to administrators, technicians, and laymen. In this respect the upstream watershed program partakes of the same problem as do other agricultural programs. Therefore, it is not unique.

Provision of necessary plans of action for any program always raises problems in administration. Shall the plans be made individually for each action program, or shall they be made with the view clearly in mind of fitting them together as parts of the whole program for agriculture? What should be done by separate agencies? What should be done by the combined chiefs of staff to insure coordination and integration of policies and plans for separate programs? The dilemma should be resolved, of course, in favor of developing and carrying out the best over-all agricultural program, because development of a program for one individual activity without correlation with other related programs would

either break down speedily or lead to disruptive effort among the various programs.

For example, much thinking about a desirable postwar agricultural pattern assumes that there will be constantly greater improvement in farm technology, with a corresponding need for less crop acreage per capita than was necessary in the past. Accompanying this modern trend in agriculture, there also will be a continued migration of farm youth from the country to the towns.

With the advance in the arts of agriculture which enables a farmer to produce more and more food with less and less land and labor, crop production needs for adequate diet and clothing probably can be met within the next few years from about 330 million acres of cropland instead of the 360 million or more acres planted during the war.⁶ This development will involve shifts in use of land on many thousands of farms from intensive to more extensive uses. These impending changes do not mean retrenchment, necessarily; instead, they point the way to long-needed adjustments in land use and agriculture which can be made satisfactorily only if all agricultural programs, including the watershed program for retardation of run-off and waterflow and soil erosion prevention, take them fully into account in developing and carrying out plans.

The changes in land requirements will make it imperative that agricultural measures be carried out in many areas to stabilize local and regional agriculture and thus help make the needed adjustments. In some regions the adjustment may take the form of farm enlargement, land development, and improvement to provide pasture and hay for livestock and fruits and vegetables for home needs,

⁶*What Peace Can Mean to the American Farmer*, Misc. Pub. No. 562, U. S. Dept. Agr., May 1945, pp. 20-23.

along with provision for retirement of steep, eroded hillsides and for better woodland management and protection. In other places it may mean development of flood control, drainage, and irrigation to provide a sufficient land base for a more stable and profitable agriculture. Into this general setting all workable plans for postwar agriculture must be fitted. Future flood control investigations and action programs must consider this changed situation in postwar agriculture.

Analysis of Some Procedures Used in Conducting Investigations

At the outset one fact concerning past work requires at least brief mention. From some of the printed watershed flood control reports and especially the published articles, one may get the impression that the main problems facing the administrator and technician alike on the watershed surveys are principally those of hydrologic measurements of run-off and flood heights and the economic justification of programs in dollars and cents. A great deficiency is covered by the brevity in some of these publications regarding desirable land use changes, and practicable measures to accomplish them while permitting the farmer to make a living from the land. Surely a more effective watershed flood control program must include more adequate provision for a more complete treatment of these problems in the reports as well as in the investigations. Work outlines and progress statements show that much study was given to necessary land-use measures and problems of installation in past surveys and this should be continued and covered in future reports. It is unfortunate that the demands of various reviewers of the first survey reports for more and more proof of what land-use measures would

do resulted in an apparent unbalanced type of report which gave the impression that too much emphasis was placed on evaluation procedures.

During most surveys considerable time was spent in development of specific measures, means of application, and the problems of land tenure, credit, and value connected with installation and maintenance of programs. In the past work, however, there was inadequate treatment in some reports of land use and forestry measures. Often they were put together in one big bundle. This procedure is a symptom of a deeper problem—that of depending today upon standard remedies for the ills of the land in the past without stopping to inquire if they meet the changed conditions.

Remedies cannot be worked out readily unless the essential, separable measures and the techniques of application are known and analyzed. The minimum requirements and costs of a land use or forestry program are important to the farmer struggling to make a living and carrying a heavy debt load on poor land. Tests of the reasonableness and justification of public measures are an important problem, also, to the program administrator faced with making comparatively little money go a long way.⁷ The chief question in an examination of individual practices or treatments is to make up the best combined bundle of possible undertakings for the money available. If physical measurements and economic appraisals assist in finding combinations which will meet the land needs and help the farmer most efficiently and at lowest cost (within the ability of the farmer and the public to pay), then they will have served a useful purpose.

But always a decision as to how far to go in these measurements must be tested

⁷ Gilbert F. White, "The Limit of Economic Justification of Flood Protection," *The Journal of Land & Public Utility Economics*, May 1936, pp. 133-48.

against this objective. While there should be no attempt to separate measures into unreasonable parts for the purpose of study and evaluation there is a place for a laboratory testing of proposals during the time the plans are being made. The requirement of estimating costs and benefits is a yardstick set up in the flood control authorization acts, but these estimates are not an end in themselves. Nor are they infallible guides to be followed exactly in every case. One of the chief difficulties has been that they have been taken to serve a more important place than they can possibly fulfill, and too great reliance has been placed on them in making recommendations and in considering budgets.

One of the accomplishments of the flood control program was the pooling of efforts for the study of hydrologic questions, including the hydrologic evaluation of programs. At the outset of the survey program there were few trained agricultural hydrologists available in the Department of Agriculture. At its conclusion several experienced hydrologists had been added to the staff and others had been developed and trained from within the department. The hydrologic work in the surveys was done by effective use of personnel and services from several branches of the department. Without their efforts the completion of many surveys would have been impossible. This successful staff cooperation was not due to any lack of differences of opinion; there were plenty of those. It was successful because responsibility for hydrologic procedures was fixed and the group was assigned the job to reconcile differences and to agree on working procedures. From then on each technical worker had an accepted standard for the conduct of his individual assignment.

Another accomplishment of the flood

control program was the assembly and analysis of available information on the physical and economic benefits and costs of various land-use measures and programs designed to control and retard run-off and to prevent erosion and sedimentation. Even though it was somewhat vexing at times to place values on land-use measures long commonly accepted as valuable without specific appraisal, this service was highly beneficial because it promoted greater interest in program development and improvement and in achievement of the best possible returns compared to effort and funds expended. The evaluation phase of the surveys also required that concrete facts be worked out about specific measures and programs where such data were previously lacking or available only in general and sometimes inconclusive terms. The increased use of economic and social analysis of agricultural programs has served to place them on a sounder basis.

For many years economic studies have been made by economists on land values, income, tenure, credit, farm management, and production. The flood control program made it necessary to bring these related efforts together and to attempt over-all evaluation of the situation and the results of certain courses of action. As in the case of the hydrologic studies, this need demanded, in part at least, a new type of work. There was, however, a large body of agricultural economics principles, data, procedures, and personnel, on which to draw, although this may have been a handicap as well as an asset. Sometimes too much reliance was placed on past procedures that may have been useful in studies of individual farms and groups of farms from the private entrepreneurial standpoint but which were not designed to reach out for the new facts and methods needed for the new

problems of making public expenditures on private land. Even so, the results, as shown in the examination and survey reports, indicate that much constructive work was done which will serve as a good starting point in the future.

Some of the investigational procedures were cumbersome and time-consuming and, therefore, need revision in the light of experience and new information. Major evaluation problems, for example, need further detailed study. For further work, provision for answering these questions should be made early by assignment of economic consultants and analysts to review and report upon economic principles and procedures.

In this regard, the work by L. C. Gray, during several months from 1938 to 1940, was a good beginning.⁸ During this time, a committee in the Bureau of Agricultural Economics prepared three statements on economic procedures for flood control investigations.⁹ In addition to these studies, there were consultations and reviews by the Land and Water Committees of the National Resources Planning Board. Later, there were reviews of survey reports by the Bureau of the Budget. These reviews had considerable influence in shaping economic procedures and policies. Also, a subcommittee of the Water Resources Committee, headed by Major General Max Tyler, was created to deal with the evaluations of flood damages and flood control benefits and, in 1939, it prepared a schedule and directions for its use.¹⁰ The comments on survey reports by George S. Wehrwein, a member of the Land Committee, were especially valuable. A week's intensive seminar on

flood control evaluation, conducted by John D. Black at Harvard University in 1939, also contributed a great deal to critical review of evaluation principles and procedures. Accordingly, economic consultants were used during the examination and survey program, in addition to the advisory and supervisory work of interested division heads and other economists of the Bureau of Agricultural Economics. This economic advisory service should be continued and strengthened by providing consultants and full-time technical workers as outlined above.

In future watershed investigations a more detailed and interpretative statement within the framework of the broad policy directives in the flood control acts would help greatly by defining and recognizing the evaluation phase of watershed surveys as only one of several tests to be applied in reaching a decision as to whether to adopt a program, or which of various alternative plans to choose.¹¹ For example, these tests among others might include the following questions: (1) Is the proposed program in the public interest as indicated by the opinions of the people concerned as to the real need for action? (2) Will the program fit in with desirable long-time, recognized local, state, and national land-use policies and programs for the area? (3) Is the program physically feasible and technically sound—that is, is it in accord with the available scientific information and the best techniques? (4) Does the program appear justified from the standpoint of over-all results as compared to total costs—that is, qualitative and quantitative benefits, physical, economic and social, including both

⁸L. C. Gray, Report on the Watershed Flood Control Program, June 19, 1939. (Unpublished.)

⁹(1) Bureau of Agricultural Economics Memorandum No. 1, to BAE Field Personnel Engaged in Flood Control Surveys, August 1939. (Unpublished.) (2) Suggestions for the Evaluation of Flood and Erosion Control Benefits, March 1939. (Unpublished.) (3) Suggested

Methods for Computing the Value of Benefits of Retarding Sedimentation of Reservoirs, April 1940. (Unpublished.)

¹⁰Report of the Subcommittee on Flood Damage Data, National Resources Committee. March 1939.

¹¹V. Webster Johnson and John F. Timmons, "Public Works on Private Land," *Journal of Farm Economics*, November 1944, pp. 665-84.

tangible and intangible values and costs? (5) Can the program be financed, and cost sharing and maintenance arrangements made among the beneficiaries? While it is desirable that programs meet all five tests of desirability, it is not always necessary that they do so in equal degree.

Results of the Surveys

Of the 18 completed survey reports, 11 found a program of watershed land-use treatment justified under the Flood Control Acts; 6 found a program of land treatment justified in terms of land-use benefits but lacking in enough flood control benefits to warrant installation under the Flood Control Acts; 1 found the program investigated to be negative. The findings in the surveys so far completed indicate that complete programs of watershed treatment may be expected to reduce average annual flood and sediment damages by as much as 40 percent in some watersheds, but by no more than 5 percent in others. The extent of flood damage reduction by the watershed work is not the same for all watersheds because of the great diversity in land use and in natural conditions of land and climate.¹²

Character of the Benefits. Although the flood control legislation requires that "... the benefits to whomsoever they may accrue are in excess of the estimated costs ..." of the programs recommended, practical necessity has resulted in classifying the benefits of the watershed flood control program into two general classes, as follows: (a) "flood control" benefits—those accruing largely to others than the owners and operators of the

land upon which the works of improvement are installed, through reduction of downstream flood and sediment damage; (b) "conservation" and other benefits—those accruing to the owners or operators of the lands upon which the works of improvement are installed, through increased yields and farm income.

A relatively large share of the "flood control" benefits of watershed land-use measures, as shown by the completed surveys, results from reducing the damage from small, frequently recurring floods, particularly on tributaries which in the aggregate do large damage but which do not draw widespread public attention. Relatively small reductions may be expected in the damage from the great floods which receive much publicity. In the future, this fact must be clearly recognized and thoroughly stressed so that disappointment of people whose lands continue to suffer damages from great floods despite land-use measures may be avoided.

The "conservation and other benefits" accrue eventually to the owners or operators of the lands upon which land-use treatment is applied. These consist of increased soil productivity and reduced erosion, resulting over a period of years in increased yields and farm income from the lands treated and increased income from forest and grazing lands. On watersheds surveyed it was estimated that erosion could be reduced in amounts varying from 40 to 60 percent by the adoption of programs of land treatment. In all but one of the 18 watersheds for which surveys have been completed these other "conservation" benefits, chiefly in the form of increased income, greatly overshadow the "flood control" benefits. On some watersheds they constitute 90 to 95 percent of all benefits.

Stated briefly, the results of the detailed flood control surveys made by the De-

¹² An analysis of the conclusions of the watershed flood control surveys on flood reduction possibilities of land-use measures is given in an article by Howard L. Cook, "Flood Abatement by Headwater Measures," *Civil Engineering*, March 1945: A discussion of flood damages on farms, and what farmers can do about it, is contained also in an article by John Bird, "Must the Floods Come," *Country Gentleman*, July 1944.

partment of Agriculture to date, together with other corroborative information from other agencies, point to the conclusion that land-use treatment—while not a substitute for dams and levees in flood control—is a valuable supplement, particularly in reducing damage above dams or other works and to property not otherwise protected. Both the work on the land and the engineering measures coordinated with each other are necessary.¹³ Land-use treatment also prolongs the effective life of reservoirs, and in some cases reduces cost of removing silt and debris from reservoirs, reduces damages to land resulting from flushing of reservoirs, and prevents damage by filling of stream channels, drainage and irrigation ditches, swamping of bottomland, and deposits of damaging material on valley land and roads.

Character of Remedial Measures. In the watershed run-off and erosion control programs recommended in the completed reports much reliance is placed on improvement of the vegetal cover. Good cover on the land reduces run-off by increasing the infiltration of water into the soil and by increasing the water storage capacity, and also reduces erosion. Forest fire control, reforestation, range and pasture improvement, removal of unsuitable lands from cultivation, use of cover crops, meadow strips for disposal of run-off, and improved crop rotations are among the principal measures involving vegetation. Mechanical measures for retarding and reducing run-off and preventing erosion, such as contour cultivation, closed-end terraces, waterspreading, gully control devices, debris basins, farm ponds, small dams,

and channel stabilization are also employed.

In watersheds having deep, permeable soils capable of storing additional water, the effect of watershed treatment on floods may be substantial. The chances of considerable benefits are relatively good on watersheds where a high percentage of the flood damage comes from frequently recurring small floods on tributaries, and in watersheds where the valley shapes are such that relatively small reductions in flood volume cause the floods to crest below the main damage areas.

In watersheds possessing predominantly shallow soils, such as those characteristic of some mountainous areas, the soil is unable to retain all water that is infiltrated in flood-producing storms. On such watersheds the effect of land treatment upon floods is small ordinarily. In regions where vegetation is dormant and the ground frozen in winter, and where a large share of damage is caused by winter floods, relatively small benefits from land-use measures may be expected.

In general, the measures for run-off retardation, erosion prevention, and sediment reduction to be installed pursuant to the Flood Control Acts are much the same in some areas as those authorized for installation under the agricultural programs for soil and moisture conservation and forest protection and management. In other instances the measures are different either in type, form, or intensity of application. The soil and forest conservation programs being carried on by the Department of Agriculture also provide substantial upstream flood and erosion prevention benefits in addition to increased long-time incomes from the land. It is, therefore, most important that the dual nature of the benefits of land-use treatment be considered in making decisions on future watershed

¹³ *Report, Committee on Postwar Agricultural Policy of the Association of Land-Grant Colleges and Universities, October 1944, p. 46, and "Land Cover in Relation to Water Control and Utilization in the Upper French Broad River Watershed," N. C. Agr. Expt. Sta. Bul. 339, June 1943, pp. 5-16 and 46-50.*

programs for run-off and waterflow retardation and erosion prevention.

In large part, the watershed measures for run-off and erosion control will have to be installed on land which is to remain in private ownership. It is therefore necessary to have the cooperation of private landowners and to induce them not only to permit installations on their land and to participate in the installation but, more importantly, to assume some responsibility for maintenance of the measures. Reliance has to be placed on choosing measures which will be profitable enough for private owners to accept and maintain voluntarily. Public payment will be necessary for some necessary land-use measures which do not pay the farmer. In many poor land areas, contributing greatly in rapid run-off and large amounts of eroded soil to flood problems, survey results show there is ample justification for public expenditures to install all land-use measures necessary to relieve the flood situation. Information obtained on some surveys indicate that the lending of funds by authorized agencies at low interest with payments deferred until returns are received may constitute one of the most effective means of expanding the necessary work on private land for run-off and water-flow retardation and erosion prevention.¹⁴

The land-use changes proposed in order to retard run-off and waterflow and prevent erosion sometimes require farm enlargement and pasture and forestry development if the farms are to furnish an adequate income to their operators. In some instances fewer farms and farm jobs for a smaller number of families will result from recommended

programs for farm enlargement and for changes from row crops to pasture and forestry.

Outright public assistance will be necessary to help many families displaced by flood control programs to find other jobs and homes.¹⁵ Studies of past experience show that government land purchase and other similar programs can create serious social and economic problems unless practical assistance is furnished in helping the people relocate. There are many problems of finding suitable permanent jobs, homes and farms, without overcrowding, and in providing road, school and other community facilities. The provision of sound plans for helping displaced people should be made a part of all future watershed planning, such as run-off and erosion control, flood storage, power, and irrigation reservoir programs.¹⁶

In addition to a public sharing of the cost of watershed flood control measures, land-use regulations could be imposed by Soil Conservation Districts as contemplated in the Standard State Soil Conservation Districts Law, but enactment and enforcement of such regulations are wholly within the province of state or local authority.

Flood plain zoning and regulation of channel capacities are also recognized as desirable ways to prevent increases in flood damages and hazards to life. However, there are many obstacles to enactment and enforcement of the necessary state and local legislation to regulate and limit land use, to prevent dumping of waste and building structures which restrict stream channels or cause them to fill. The 1942 publication, "Flood Plain Zoning, Possibilities and Legality

¹⁴ John D. Black, "Agricultural Credit," *Journal of Farm Economics*, August 1945, pp. 591-614.

¹⁵ "Survey Report of the Yazoo River Watershed in Mississippi," H. D. 564, p. 26, 78th Congress, 2nd session, May 1944.

¹⁶ "Social Effects of Government Land Purchase," Miss. Agr. Expt. Sta., Bul. 390, June 1945; "Planning for Family Relocation," Mo. Agr. Expt. Sta., Bul. 427, April 1941; *Annual Report*, Tennessee Valley Authority, 1943, pp. 28, 29 and 63.

with Special Reference to Los Angeles County, California," of the California State Planning Board presents the problem and some experience along with suggested measures for handling it in the Los Angeles area.¹⁷

Questions for Special Treatment

Even though the watershed flood control surveys have demonstrated that land-use measures in headwater areas have an important part in flood control programs, there still remain many perplexing problems of measures to consider and techniques of investigation as well as application of programs.

One of the most serious questions is whether watershed planning for retardation of run-off and waterflow and erosion prevention can, or should, be separated from planning for other land-use programs. Past experience shows watershed treatment to yield multiple benefits with benefits to the land as well as from abatement of floods. One procedure suggested is to approach watershed planning for run-off and waterflow retardation and soil erosion prevention first from the standpoint of a sound land-use program and not from flood abatement alone. If this plan of work were followed, the land-use plans for soil, water, range and forest conservation would be made as at present by the agencies charged with this responsibility; then they would be reviewed for the authorized watershed areas by watershed technicians to see what additions, if any, should be made in the interest of flood and erosion damage reduction; the probable flood damage reductions would be appraised to see where expenditure of flood control funds were justified; and a watershed flood control report, for action by proper authorities,

could be prepared. Adoption of this procedure would contribute to answers to some of the most debated questions on past flood control surveys, that is: Is a watershed flood control survey necessary? And, when is the use of flood control funds for action programs on the land justified?

A general recognition of the fact that conservation benefits from land-use programs often are larger than downstream flood control benefits and the adoption of a general formula for allocating the public costs of program installation among the beneficiaries also would expedite future watershed surveys. Several possible ways of allocating costs might be considered. These include: (1) allocation of costs among major beneficiaries roughly in proportion to benefits—for example, if public benefits comprise 50 percent of benefits, allot 50 percent of costs from that source and the remainder to private sources; (2) allocation of costs in proportion to ability to pay, considering returns from the investment and the length of time before such benefits were received; and (3) allocation of all costs of measures recommended chiefly for run-off and waterflow retardation from public sources where there are substantial flood control benefits and it is determined that it is a public responsibility to make the investment. Other ways of allocation exist but these examples illustrate the problem which needs study and decision on a clear-cut procedure.

A shortcoming in the watershed flood control surveys was that having to do with the need of credit to improve land use on private land in the interest of run-off and waterflow retardation and erosion prevention. It is suggested that in future watershed surveys, study be given to the amount and the arrangements for providing the necessary credit

¹⁷ This study was carried on in cooperation with the Los Angeles River Flood Control Surveys made by the Departments of Agriculture and War during 1939 and 1940.

as well as materials and services to install the land-use measures recommended on private land. The investigation of credit needs, possible arrangements and proposals for use of credit to enable farmers to install watershed measures probably could be arranged in cooperation with the authorized credit agencies.

To reap benefits from land-use programs, they must be continued and maintained as well as installed. Of the survey reports completed, the Little Tallahatchie, Yazoo, and Trinity River Watershed Reports contain, perhaps, the best examples of planning and provision for maintenance as well as installation of land-use measures. There is a long period after installation of a program to retard run-off and prevent erosion on the land before it can stand alone and begin to repay out of receipts from the investment. In some watersheds it was found that on many small farms from 5 to 15 years would be required after major land-use changes were made and measures installed before the costs could be paid and a farm income made equal to that before the program.¹⁸ On numerous poor farms the time required to recover costs of measures and losses of income while the measures are being installed would be even longer. In such cases, if it is a good public investment to install a program, then it is wise also to provide for maintenance and protection through service and other material assistance.

Attention should be given to what farmers can afford to pay in the long run from the benefits of measures to retard run-off and waterflow and prevent erosion on their land, and what is equitable for the public to pay because of public benefits. It has been found in the public interest to provide flood protection to cities, towns, and farming

areas at public expense because of the widespread public benefits. Likewise, aid has been furnished farmers in irrigated areas by providing water at rates fixed in proportion to the earning capacity of the land. A few studies have been made, or are in progress, of the economic effects of land conservation and of what farmers can afford to pay for irrigation water.¹⁹ It appears reasonable to extend this form of aid to farmers called upon to shift their land to less profitable uses, or to use more expensive practices on their land, in order to control or retard run-off and prevent flood and sedimentation damages to downstream areas.

An important part of flood control surveys was that of determining farmer cooperation in the recommended program. While detailed estimates were prepared of the acreages needing certain treatments, and although careful studies were made of the effects of such measures on run-off and erosion, insufficient time was given to adequate appraisal of public cooperation in carrying out the program on private land. All too frequently this estimate was a rough approximation as compared to the detail in calculations of run-off. This should be remedied in the future by provision for more specific means to estimate the cooperation which may be expected for alternative land-use measures.

In the past flood control surveys, the discount rate used to make costs and benefits comparable was 3 percent, approximately the average rate then being paid on the public debts. Since that time the average interest rate on the public debts has declined. The interest rate considered in calculation of private costs was 5 percent. However, in the

¹⁸ *Survey Report on the Trinity River Watershed*, Texas, H. D. 708, pp. 52-55. 77th Congress, 2nd session. April 1942.

¹⁹ Arthur C. Bunce, "A Method of Estimating the Economic Effects of Planned Conservation on an Individual Farm," U. S. Dept. Agr. Misc. Pub. No. 463. January 1942. Also, H. E. Selby, "A Method of Determining Feasible Irrigation Payments," *Journal of Farm Economics*, August 1942, pp. 637-46.

interest of simplicity in making the large number of calculations, on several surveys an average rate of $3\frac{1}{2}$ percent was used for conversion of both public and private costs and benefits to comparable present values.²⁰ Before undertaking additional surveys careful technical study should be given to discount rates to be used to convert costs and benefits over time to a comparable basis.

A companion question to that of discount rates is that of depreciation rates on reservoirs and structures subject to sedimentation damage. For example, allowance of a flat rate per year, or a straight-line rate in accordance with the rate of filling by sedimentation, gives a quite different result than a rate that begins in the future when the use of the structure actually becomes noticeably impaired.

In estimating the benefits of forest cover W. W. Ashe, in a Department of Agriculture bulletin of 1926, used the present value of the added utility of a protected reservoir. Later, in 1941, Garin and Gabbard used equivalence value procedures in estimating benefits of preventing siltation of reservoirs which were somewhat like those proposed by Ashe.²¹ In past flood control surveys the procedures used in evaluating benefits to reservoirs were, in general, similar to those used by Ashe, Garin, and Gabbard. The benefits to large reservoirs from prevention of sedimentation usually were estimated as additions to the useful life of the reservoir, or were counted as accruing in the future when the use of the structure was actually impaired. There are arguments on both sides of

this question, but here the intention is only to point out the need for study and decision as future surveys should have the benefit of a sound policy decision concerning it.

A census of agricultural flood damages, including collection of information on the effects of flooding on the various growing crops at different stages of growth, would be very useful to future surveys as well as of aid in working out damage prevention methods. Such information would provide estimates of the benefits of flood control, and in addition would throw light on possible means to avoid damages by shifting planting dates, or types or varieties of crops. At present, the several agencies that collect flood damage data use varying procedures and schedules. There are instances of important omissions in collecting flood damage data; particularly is this true of headwater areas away from the large streams and urban centers.

Along with systematic studies of flood damages there is need for expansion in sedimentation surveys to obtain estimates of present and probable future sedimentation damages to reservoirs, stream channels, ditches, roads, and land. Damages from this source may be much greater than once believed likely in some areas because of extreme floods and heavy erosion and from damages to downstream areas by attempts to flush silt and debris from reservoirs. Such losses, among others, include loss in storage space, loss of water, swamping of reservoir areas, cost of silt removal, increased costs of reservoir operation due to silt and debris, and additional downstream damages. The results of these

²⁰ The following articles discuss questions related to discount rates used in comparing conservation costs and benefits: Arthur C. Bunce, "Time Preference and Conservation," *Journal of Farm Economics*, August 1940, pp. 533-43. Also, L. C. Gray and M. M. Regan, "Needed Points and Reorientation in Land Economic Theory," *Journal of Farm Economics*, February 1940. And Eric Englund, "What Price Conservation," *Land Policy Review*, March-April 1940-

²¹ W. W. Ashe, "Financial Limitation in the Employment of Forest Cover in Protecting Reservoirs," U. S. Dept. Agr. Bul. 1430. August 1926. Also, A. N. Garin and L. P. Gabbard, "Land Use in Relation to Sedimentation in Reservoirs, Trinity River Basin, Texas," Tex. Agr. Expt. Sta. Bul. 597. January 1941.

studies may lead to revision of estimates of length of life of many reservoirs in areas where erosion is still a critical land problem.

Another need in flood and sedimentation control activities is for well-planned expansion of long-range studies of the effects of different types of cover and land-use measures in retarding run-off and waterflow and in prevention of erosion and sedimentation. It is not only important that these fact-finding

surveys be carried on under representative soil, land use, and climatic conditions for sufficient periods of time to be trustworthy but that the results be analyzed and made available in time for proper planning. Lack of these and similar advance arrangements for major fact finding, procedural and policy decisions were a serious handicap on the past watershed flood control surveys. Such arrangements and decisions are vital to future work.

Administrative Coordination of Conservation Policy¹

By S. V. CIRIACY-WANTRUP*

THE legislative mandate for public conservation policies in the United States is contained in many unrelated acts, treaties, compacts, and ordinances; execution is spread over many international, federal, state, and local agencies. The multiplicity of legislative purposes and of executive authorities in conservation policies has led to duplication and conflicts. Naturally there have been proposals for improving this state of affairs. Proposals have been made that there be established in the federal government a department of conservation, usually with the present Department of the Interior as a nucleus.² Others feel that a conservation commission should be established along lines somewhat similar to those of the Independent Regulatory Commissions (Interstate Commerce Commission, Federal Trade Commission, National Labor Relations Board).³ There is some question about the wisdom of trying to solve the problem in this way. On four points, especially, reservations may be made. Discussion of these points may serve as a basis for proposals to be made below.

In the first place there is the difficulty caused by the rather broad and variable substance of conservation policies. Most decisions of private planning have a bearing on conservation.⁴ Likewise, the present-future consideration is involved in most governmental decisions to guide the national economy. And yet, considerations other than the distribution over time of use rates from natural

resources are involved in the decisions of private and public planning agents. Conservation is only one phase of the general problem of economic planning. This phase may need more attention; but it would appear undesirable to conceive and organize resource planning under a title (Department of Conservation, or Conservation Commission) that unduly emphasizes the time-distribution aspect in the use of natural resources. The shaping of conservation policies cannot be divorced from national planning in general. Further, national planning must not be organized so narrowly that it becomes identical with natural resources planning.

Second, there is the problem of comprehensiveness in the administration of conservation policies. The state of conservation resulting from actions of private planning agents can be influenced by a great variety of public actions. Almost every public policy bears directly or indirectly upon the conservation of one or several natural resources. Most federal executive departments, therefore, must either be absorbed by the proposed department of conservation (Conservation Commission) or be subordinated to it in many of their functions. Such an all-comprehensive and all-powerful agency would become an administrative monstrosity in the federal executive.

Third, even if the two foregoing difficulties with respect to substance and

ciety and Conservation," *Journal of Farm Economics*, February 1942, pp. 109-123.

² M. W. Watkins, "Scarce Raw materials: an Analysis and a Proposal," *The American Economic Review*, June 1944, pp. 227-260.

⁴ For a discussion of the economic meaning of conservation see: S. V. Ciriacy-Wantrup, "Taxation and the Conservation of Resources," *Quarterly Journal of Economics*, February 1944, pp. 157-195.

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¹ Giannini Foundation Paper No. 113.

² President's Committee on Administrative Management. Administrative management in the government of the United States. Washington, Govt. Print. Off., 1937. pp. 33-34. J. W. Finch, "Conservation," *Mining Congress Journal*, December 1937, pp. 32-33. C. H. Hammar, "So-

administration could be solved, solutions on the executive level, such as the two proposals mentioned, would not improve the coordination of conservation policy on the legislative level. According to one writer,⁵ a conservation act should contain no more than general principles, and broad powers of policy formulation should be delegated from the legislative to the executive branch of government. In specific, well-defined cases, Congress has delegated legislative powers to executive agencies, for example, to the Department of Agriculture and to the Regulatory Commissions mentioned above. Such delegation has been held by the Supreme Court not to conflict with the threefold separation of governmental powers required by the Constitution. The Court has conveniently defined such powers as quasi-legislative and quasi-judicial.⁶ But it is doubtful whether such broad powers as appear necessary for conservation policy could constitutionally be delegated to an executive department or commission.

Finally, the Constitution leaves with the state and local governments much of the power to regulate resource utilization. Coordination on the federal level, therefore, even if it could be accomplished in both branches of government, would leave an important sphere of conservation policy untouched. Even if it were desirable it would be difficult constitutionally to endow a federal department or commission with the necessary authority over states and counties. On the other hand, much could be gained if there were institutional mechanisms through which the

great potential influence of the states could supplement federal conservation policies.

As the foregoing points indicate, improvements in the administrative coordination of conservation policies can best be brought about, first, by establishing or strengthening general planning agencies in the executive, second, by better integration and more effective functioning of the legislative, and third, by facilitating federal-state and inter-state cooperation. The subsequent discussion will deal with the realization of these three objectives as they are related to conservation. Proposals must be based on experience and on fairly clear trends in administrative procedures; they must be realistic with respect to Congressional passage and judicial approval. Let us start with the problem of planning in the federal executive.

The disappearance of the National Resources Planning Board in 1943 left the planning machinery in the federal executive outwardly weakened. A previously noticeable trend towards greater prominence of the Bureau of the Budget as general staff agency of the federal executive was, however, strengthened.⁷ There is little doubt that the Executive Office of the President is the proper place for a planning agency. It is less obvious whether such an agency should be a Planning Division in the Bureau of the Budget or, instead, a Bureau of Planning coordinate with the Budget bureau. For the latter arrangement, the argument is that the important day-to-day and year-to-year functions of the existing six major divisions of the Budget

⁵ M. W. Watkins, *ibid.*

⁶ Robert E. Cushman, *The Independent Regulatory Commissions* (New York: Oxford University Press, 1941), pp. 780.

⁷ Under President Franklin Roosevelt the sphere of responsibility of the Bureau of the Budget (established by the Budget and Accounting Act of 1921) increased greatly. In 1937 the President's Committee on Administrative

Management recommended that the Bureau of the Budget assume the role of the President's agent in coordinating policies of the executive branch and in unifying departmental operations. Following these recommendations, the Reorganization Act of 1939 transferred the Bureau from the Treasury Department to the Executive Office of the President. The duties of the Bureau were subsequently redefined and enlarged by executive orders.

bureau may overshadow and retard the growth and influence of a new division. On the other hand, no planning within the executive branch would be of much consequence without the support of the Chief Executive and his general manager, the Director of the Budget. Given this support, a properly staffed Planning Division within the Bureau of the Budget would gain from close association with the other divisions, and vice versa. Through the budget lever, such a division could exercise more power to coordinate executive agencies than could a separate Bureau of Planning. Judging from experience with the National Resources Planning Board, a Planning Division subordinated to the Director of the Budget would probably be more acceptable to Congress than a coordinate Planning Bureau. Establishment of such a division appears, therefore, the most appropriate solution for planning and coordinating conservation policies in the executive branch. At present the facilities of the Executive Office of the President are not sufficient for this task.⁸ Although the Bureau of the Budget is charged by executive order⁹ with planning postwar public works, Congress has not implemented this authority by appropriating

⁸Harold D. Smith, Director of the Bureau of the Budget, stated before the Special Committee on Postwar Economic Policy and Planning, House of Representatives, May 31, 1944:

"I have previously indicated that the subsidiary, intra-agency kind of planning is going forward; and that the main deficiencies are in coordinating that type of planning and in the overhead development of programs conducive to full employment, which programs cannot be developed by any one agency.

"The deficiencies add up to an inadequacy of planning facilities in the Executive Office of the President. In my judgment, here is where the greatest gap in our planning structure is to be found. From my experience in dealing with the interagency problems I must frankly state that the existing planning facilities of the Executive Office are by no means commensurate with its needs. The magnitude and complexity of the task of interagency coordination is evident, I believe, from the illustrations which I have already cited.

"Yet, the staff available in the Executive Office for over-all planning is in reality very limited. For example, the Director of War Mobilization has but a handful of assistants to aid him in resolving intricate problems

funds even for this immediate and pressing aspect of economic planning.¹⁰

The Planning Division should have six or more sufficiently large individual sections dealing with flow resources, stock resources, public works, fiscal and monetary policies, labor and public welfare, international trade, and other important aspects of economic planning. The two resource sections should be staffed with competent specialists, able to deal both with the technology and economics of conservation and with the strategic phases of production, trade, and the consumption of resources. So wide are the ramifications of the conservation problem, however, that the permanent staff could not well include experts equipped to deal with all classes of problems. The Planning Division, more than any executive agency, may utilize temporary consultants from within and without the government, together with research facilities in government departments, universities, and other public institutions. Despite the budget lever for coordinating the executive agencies, the Planning Division would be wise to rely mainly upon voluntary cooperation. To facilitate such cooperation, it might utilize personnel and

of spot coordination. I pointed out previously that the Bureau of the Budget does a great amount of work in the coordination of Government programs and in unifying departmental operations. However, the Bureau is not presently equipped to engage in the basic planning required to integrate the plans and programs of the Executive Agencies and to relate them to the broad national objectives which I have indicated.

"As an example of present limitations of the Bureau of the Budget let me refer again to the review and coordination of public works. Federal agencies in response to a Presidential letter of May 22, 1943 have submitted suggestions to the Bureau of the Budget for many billions of dollars of public works or publicly aided private activity. These suggestions need to be thoroughly appraised as to relative merit, as to needs of the various types of activities and structures, and as to their relation to an over-all program for capital and resource development. At present staff, funds, and machinery to process these suggestions adequately do not exist."

⁹Executive Order No. 9384. See also: Section 501 of the War Mobilization and Reconstruction Act of 1944.

¹⁰As of May 1945.

facilities of the functional agencies (the Departments of Agriculture, Interior, Commerce, the Treasury, etc.) instead of duplicating intra-agency planning.

The Planning Division and particularly its two resource sections would need strong regional staffs that would command the respect of federal and state agencies. This proposal would involve no revolutionary changes in the organization of the Bureau of the Budget. At present a special division, the Field Service, helps that bureau to investigate the operation of federal departments in the various regions of the country, counsels with federal agencies with a view to improving coordination within regions, and consults with state and local officials regarding federal policies. For reasons already indicated, federal-state cooperation appears especially important in conservation policies. On this point, more will be said below.

Better coordination of federal conservation policies within the executive branch of the government does not appear sufficient. A general conservation act delegating policy formulation to the executive and eliminating the need for legislative coordination would not be suitable for the purposes here under consideration. Such an act would not be constitutionally feasible or politically wise from the standpoint of the checks and balances so essential for democratic government. It appears probable and politically desirable that conservation policies will continue to be formulated

through numerous individual acts. This situation poses the problem of legislative coordination.

The legislative branch, like the executive, displays certain trends that may be utilized. Within and without Congress, there is a strong desire to modernize partly obsolete legislative machinery. The deep and growing interest in Congressional self-improvement is shown by the introduction, in the 78th Congress, of more than fifty proposals for specific reforms.¹¹ Already the Appropriations Committees of both houses have been provided with more adequate staff, and the staff allowance for individual congressmen has been increased. A joint committee on the organization of Congress, composed of six members of each house and equally divided between the two parties, has been appointed.¹²

Two aspects of Congressional reorganization are of special interest for the coordination of conservation policies. The first is a consolidation of relevant Congressional committees, and the second, a more adequate professional staffing of these committees.

Legislative proposals introduced in Congress are first referred to committees and considered by them; they may then be sent back to the chamber with recommendations for action. This system has grown greatly since the early days of the Republic, until now responsibility for legislative action is scattered among no less than eighty such individual committees—forty-seven in the House and thirty-three in the Senate.¹³ Of the latter,

¹¹ For details see the excellent report on *The Reorganization of Congress* by the Committee on Congress appointed by the American Political Science Association. (George B. Galloway, Chairman.) Washington, D. C. October 1, 1944. (mimeographed) 43 pp.

¹² Frequent newspaper editorials and columns have appeared on the subject, notably in the *New York Times*, *Washington Post*, and *Christian Science Monitor*. The editors of *Time*, *Life*, and *Fortune* have dealt with the problem in special reports. See also: Lindsay Rogers, "The Staffing of Congress," *Political Science Quarterly*, March 1941, pp. 1-22. Arthur W. Macmahon, "Congressional Oversight of Administration: The Power of the Purse," *Political Science*

Quarterly, June, September 1943, p. 161-190; 380-414. Robert Heller, "Strengthening the Congress," National Planning Association Pamphlet No. 39, January 1945.

¹³ From time to time both houses also set up special or *ad hoc* committees for the consideration of particular problems. During the 2nd session of the 78th Congress there were eight such select and special committees in the House and twelve in the Senate. The rules also provide for three joint standing committees: on printing (1895), on the library (1902), and on internal revenue taxation (1926).

(Footnote 13 continued on page 52)

seven deal largely with natural resources (Agriculture and Forestry; Irrigation and Reclamation; Public Lands and Surveys; Public Buildings and Grounds; Territories and Insular Affairs; Inter-ocean Canals; Mines and Mining). Eight deal with problems which have some more distant relation to resource policies (Appropriations; Commerce; Finance; Banking and Currency; Foreign Relations; Military Affairs; Naval Affairs; and Indian Affairs). A similar classification holds for the House committees.

Senator La Follette has proposed consolidating the thirty-three Senate committees into thirteen, of which eight would deal with substantive policy and five would have merely administrative functions.¹⁴ The eight policy committees would be empowered to act jointly with corresponding committees of the House. Each of the policy committees would have twelve members and would be exclusive, that is, its members would have no other major committee assignment.¹⁵ These eight committees would be Agriculture and Forestry, Natural Resources and Public Works, Interstate Commerce, Finance and Monetary Affairs, Foreign Relations, Armed Forces, Labor and Public Welfare, Judiciary. In principle, Senator La Follette's proposal may be endorsed here. However, the growing importance of public works, their relation to fiscal and monetary policies and to other broad problems of

the national economy, may warrant a separate Committee on Public Works and Fiscal Policy. Further, in order to avoid duplication and conflicts, the Agriculture and Forestry Committee should deal with all flow resources, including water, grazing, fisheries, and recreation. The Natural Resources Committee should deal with all stock resources; its name may be changed to Mineral Resources Committee. The technological, economic, and strategic problems of stock and flow resources differ considerably. These and the other policy committees would then parallel the individual sections of the Planning Division suggested above for the executive branch of government.

Apart from the small professional staff associated with the Appropriations and Internal Revenue committees, the Office of the Legislative Counsel,¹⁶ and the experts temporarily employed for special committee inquiries, the only specialists available to Congress within the legislative establishment are those supplied by the Legislative Reference Service (L.R.S.).¹⁷ The latter's facilities do not appear sufficient for the need.¹⁸ The staff of policy committees should be composed of specialists equal in professional caliber and civil-service grade to the staff suggested above for the Planning Division of the Budget bureau.¹⁹

The question arises whether the eight policy committees should appoint their own staff, like the Appropriations and

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The 78th Congress also set up a special joint committee on the reduction of nonessential federal expenditures. In addition, there are eighteen Congressional commissions and boards on various problems.

¹⁴ S. Res. 169, 78th Congress, 1st session.

¹⁵ At present no senator serves on less than five committees; sixteen senators serve on seven committees; nine serve on eight committees; five serve on nine committees. Under these conditions effective participation and even regular attendance are impossible. The situation in the House is somewhat better because of the greater number of members.

¹⁶ Assistance by this office is confined to bill-drafting. It includes, for each chamber, four lawyers, one law assistant, and two clerks.

¹⁷ The Legislative Reference Service was created by Congress in 1919. It is attached to the Library of Congress. Before the war depleted its ranks, it contained more than sixty members. Many of these, however, are lawyers and general reference persons. There are comparatively few specialists in economic subjects.

¹⁸ La Follette Robert M., Jr. "A Senator Looks at Congress," *Atlantic Monthly*, July 1943, pp. 91-96.

¹⁹ The majority of the professional positions in the L.R.S. are at or below P 3. There are five positions in P 4 and P 5, none in P 6, and only one in P 7. See: U. S. Library of Congress. Annual report of the librarian for June 30, 1944. Washington, Govt. Print. Off., 1945. Appendix I. Chart of organization and staff of the Library of Congress, October 31, 1944.

Internal Revenue Committees, or whether specialists should be drawn from a permanent pool like the L.R.S. Although something may be said on both sides, the latter alternative appears preferable. Scientific impartiality, competence, and nonpartisanship appear more effectively safeguarded if experts are appointed by the Director of the L.R.S. in accordance with the requirements of the Civil Service System. In consultation with committee chairmen, members of the L.R.S. could be assigned to policy committees or even to individual congressmen in a way that will ensure the advantages of specialization in subject matter and continuity of service. The costs of an adequate staff for the L.R.S. would probably be less than that of permanent separate staffs appointed by each policy committee.²⁰

Some may protest that better functional organization of committees, and their more adequate professional staffing for the purpose of legislative planning, will duplicate the work on policy planning which, in any event, must be done by the executive branch. Cases of such duplication may occur. In a system of checks and balances such as that of the government of the United States, some duplication in research and planning is unavoidable and, within limits, unobjectionable. It is not clear whether and to what extent a shift of the locus of sovereignty from the legislative to the executive has taken place in recent decades, as is widely believed.²¹ Unquestionably, however, such a shift may best be prevented by helping Congress to act more effectively and intelligently.

²⁰ For the purposes under consideration here it makes little difference whether (instead of the L.R.S.) a separate research staff is created, provided such an organization satisfies the conditions suggested in the text. See the hearings before the Joint Committee on the Organization of Congress which was mentioned above. U. S. Congress. Joint Committee on the Organization of Congress. *Organization of Congress. Hearings* . . . 79th Congress, 1st session pursuant to H. Con. Res. 18. Part 1. March 13, 15, 16, 19,

A National Planning Board or Post-war Planning Commission has been suggested as a center where plans of the executive branch, of Congress, and of organized industry, labor, agriculture, and the like, could be given the spotlight for public information and discussion, independently from administrative functions. Such a board or commission would serve primarily as a means of publicizing the plans of other agencies, in contrast to the anonymous operation of the Planning Division suggested above. To that end it would have only a small staff to help organize hearings and digest the materials presented to it. It would farm out research projects to government and private agencies as did, for example, the Temporary National Economic Committee. Such a board or commission may be useful. It should not, however, be permitted to delay the strengthening of planning machinery in the executive and legislative branches along the lines just discussed. For the coordination of conservation policies; reforms in the latter direction appear more important.

Little need be said here about individual cases in which better coordination between executive departments (for example, Agriculture and Interior) and between bureaus of the same department (for example, Soil Conservation Service, Forest Service, and the Agricultural Adjustment Administration) may be desirable from the standpoint of conservation policy. The necessity of better coordination is generally recognized by responsible officials. Attempts have been made to solve this problem; examples

22, 26, and 28, 1945. Washington, Govt. Print. Off., 1945. 199 p.

²¹ For example, the statements of Senator La Follette cited above. See also the seventh *Report of the Select Committee of the House of Representatives to Investigate Executive Agencies*. U. S. Congress. House. 78th Congress. 2d session . . . Recommendations and Proposed Legislation to Improve the Organization of Congress. Washington, Govt. Print. Off., 1944. 10 p. (78th Congress, 2d session. House. Report 1912)

are the appointment of land-use coordinators in the Departments of Agriculture and the Interior operating in close liaison, and the establishment of interdepartment and interbureau coordinating committees that exist in both departments. The participants themselves would possibly agree that these attempts were beneficial but by no means sufficient. One may doubt whether it will ever be possible for coordinate agencies to coordinate themselves effectively. Strengthening of the general planning and coordination of policies in the Executive Office of the President and in Congress seems the proper approach for rectifying gradually individual situations in which better coordination between departments and bureaus may be desirable.

We may now turn to the third essential problem in bringing about a better administrative coordination of conservation policies, namely, the problem of federal-state and interstate cooperation. Much has been written lately about the alleged infringement of state rights by the federal government in the realm of natural resources, especially in agriculture. Regardless of whether such infringement has taken place or not, state rights may be defended best if the states themselves shoulder and discharge effectively the duties with which these rights are constitutionally associated in the field of natural resources. The more progressive states now realize this con-

nection between rights and duties.²² Several states have effective policies in agricultural land use, forestry, water development, mining, and the exploitation of oil and natural gas. Important official state organizations have offered proposals for national resource policies.²³ Federal executive departments could facilitate this tendency toward more effective participation of the states in resource policies. This could be done by regarding the states and their administrative agencies as independent consultants for the formulation and implementation of federal policies before executive proposals are submitted to Congress. Frequently state agencies are regarded largely as tools of federal policies. The concern here is with policy formulation and implementation, not with research. In research, especially in agriculture, where state activities were important long before the federal government entered the field, federal agencies are more inclined to recognize the states as equal partners. The wording of certain federal-state agreements, for example the Mount Weather Agreement,²⁴ indicates a similar situation in the realm of policy formulation and implementation. In practice, with the exception of educational policies,²⁵ administrative outlets for policy impulses emanating from Washington have been created or strengthened, without a corresponding improvement of administrative channels for impulses flowing in the opposite direction.²⁶ The

²² The Council of State Governments has performed excellent services in this direction. See the frequent articles dealing with state policies in *State Government*, the periodical of the Council of State Governments.

²³ *Wartime and Postwar Problems and Policies of the States*. Report and recommendations of the Interstate Committee on Postwar Reconstruction and Development. Chicago, May 1944. 92 p. See also: *Postwar Agricultural Policy*. Report of the Committee on Postwar Agricultural Policy of the Association of Land-Grant Colleges and Universities. October 1944. pp. 61.

²⁴ An agreement (July 8, 1938) between the U. S. Department of Agriculture and the Association of Land-Grant Colleges regarding agricultural land-use policies.

²⁵ In agricultural education, the Land-Grant College Association has established several joint committees with the U. S. Department of Agriculture. Federal-state relations in education are discussed at length in: National Advisory Committee on Education. Part I: Committee findings and recommendations. Part II: Basic findings. 1:i-vii, 1-140; 2:i-xvi, 1-448, figs. 1-17. (774 Jackson Place, Washington, D.C., 1931); U.S. Department of the Interior, Office of Education. *Survey of Land-Grant Colleges and Universities*, U.S. Dept. Int., Off. Educ., Bul. 1930 (9, vol. 1); i-xxviii, 1-998; (9, vol. 2): i-iv, 1-921, 1930.

²⁶ As a rule, the federal government cooperates with the functional executive departments of the state govern-

(Footnote 26 continued on page 55)

cause must be sought, not in bad intentions on the part of the federal government, but in several institutional factors that may be remedied.

To begin with, state machinery for planning and coordinating resource policies is usually weaker than federal. Possible improvements might be made along the lines suggested above for federal planning. Planning divisions (boards, commissions) attached to the offices of state governors, reorganization of legislatures to ensure fewer but more effective committees, and provision of professional staffs for the legislatures, appear as important for the states as for the nation. Some progress in these directions is already noticeable. During the Thirties, many states created planning boards with the assistance of the National Resources Planning Board. However, the state planning boards were more concerned with specific public work schemes than with continuing administrative coordination. Few of them succeeded in recruiting a sufficiently qualified personnel. Lately, several states have appointed commissions for postwar planning, reconstruction, and reemployment. These agencies have not been placed in a strategic position comparable with that of a Planning Division in the Bureau of the Budget. Many states do not possess a counterpart of the Budget bureau.²⁷ Several state legislatures have established (or propose to establish) legislative process committees, legislative councils, or legislative advisory boards, which can employ a permanent professional staff in order to study needed and proposed legislation.²⁸ Although these bodies are

intended to be general executive committees of the legislature, their professional staffs may, in due course, become the nucleus for legislative research pools, like the L.R.S., from which may be drawn specialists to assist individual functional committees, particularly on resources.

Second, institutional machinery for coordinating policies between states and the federal government is weak. On the legislative level, some coordination is brought about in Washington by Congressmen of both Houses, particularly the Senate, representing state interests. This process, however, is rather haphazard and is influenced by many political and personal factors not necessarily related to the substance of particular policies. A possibility for improvement at the executive level has already been mentioned: federal agencies, among them the Planning Division proposed above, should adopt, to a greater extent than heretofore, a regional organization with more authority delegated to regional executives. This would greatly facilitate federal-state and interstate cooperation. Regional Coordinating Boards may be formed, consisting of representatives of relevant federal, state, and local agencies under the chairmanship of the regional representative of the (federal) Planning Division. Such boards would be useful, not only in coordinating national and state policies in the field of natural resources, but also in planning public works as a part of anticyclical economic policies. At first, Regional Coordinating Boards may be set up on a frankly experimental basis for regions, where fed-

(Footnote 26 continued from page 54)

ments, for example, in the administration of the Grain Standards Acts, the Cotton Standards Acts, the Packer and Stockyards Acts, and various domestic and foreign plant quarantine acts. In some cases the federal government cooperates with the agricultural extension service, for example, in the administration of the AAA programs.

²⁷ In California the state budget is formulated by the executive agencies in cooperation with the Division of

Budgets and Accounts of the Department of Finance. This department administers the budget after enactment of the budget bill by the legislature. Such administration, however, is largely from the point of view of finance and accounting rather than coordination of executive activity and economic planning.

²⁸ For an illustration from California see: "A Legislative Advisory Board?" *The Commonwealth*, Journal of the Commonwealth Club of California. March 12, 1945.

eral-state cooperation in resource development is especially urgent.²⁹

Third, aside from decentralization of federal agencies as such, it is important for federal-state cooperation that size and character of the federal administrative regions be chosen appropriately. At present, these federal regions are rather large, comprising commonly four to six states, and differ considerably among different federal agencies. Clearly, the need for coordination in conservation policies, phases of which are implemented by different federal executive departments, requires identical regions for such departments and identical headquarters. It is less clear what the proper size and geographical configuration of federal regions should be.

Several arguments may be advanced in favor of larger regions comprising several states: problems of resources are usually not confined to one state. Membership in a common federal region will help individual states to think about their problems in regional terms and to cooperate. From the standpoint of federal administration, policies in eight or nine regions can be more effectively and cheaply coordinated than in forty-eight regions, that is, for each state. In some resources, little or no federal activity is called for in certain states, where these resources are unimportant or nonexistent. Remoteness of federal regional administrations from local political pressure may sometimes be an advantage.

On the other hand, there are several points in favor of making the federal administrative regions smaller.³⁰ Growing responsibility of government on the federal as well as on the state level will

probably call for greater intensity (besides better coordination) in federal-state cooperation. Identity of federal and state administration with respect to boundaries and seat of government would facilitate closer contact. Individual regional problems in resources, and in economic development generally, may each extend over different geographical areas. For example, in some resource problems (agriculture, fisheries, foreign trade) the states bordering the Pacific form a logical unit. In other problems (water development, forestry, mineral resources, east-west transportation) the Pacific Northwest, including states without direct access to the Pacific (Montana, Idaho) and excluding California, constitutes a better grouping. In still other respects (livestock economy, financial connections, tourist trade, national defense), California is closely related to its hinterland in Nevada, Arizona, and Utah. The latter states, again, are tied together with Colorado and New Mexico through the Colorado River and similarity of climate, topography, and history. All these interrelations do not necessarily remain constant over time. Physiographic factors are, of course, largely constant; but their relative economic weight changes over time with changes in technology of communications (railroads, roads, automobile, aeroplane, radio) and of water developments (importance of navigation, construction of dams for irrigation, power and flood control, growth of a unified system in distributing electricity). Flexibility in the administrative configuration of a region is, therefore, desirable for two

neers has been formed. This committee has met with congressional approval and there is a good chance that large appropriations for the development of the Missouri River Basin will be placed at its disposal.

³⁰ For the more important states the federal regions may even become identical with the states. Obviously this should not be considered for smaller states with similar problems, for example, the New England States.

²⁹ As an experimental area, the Colorado river basis is of great interest. See: Mary Montgomery, "A plan for Development and Management of Resources of the Colorado River Basin: A Study of Federal Organization," Thesis (Ph.D.) University of California, 1942 (typewritten). More recently the Missouri River Interagency Committee, under the chairmanship of a representative of the Army Engi-

reasons: first, to adjust a region to different resource problems; second, to take into account changes, over time, of regionality factors. Smaller permanent basic units of federal administration would facilitate such a flexibility.

It is rather difficult to draw conclusions from these pros and cons of whether federal administrative regions should be large or small. The trend is toward larger federal regions. For the near future, at least, this trend corresponds to political realities and, compared with the present excess of federal centralization, moves in the right direction. In the long run, however, a closer connection between federal regions and states will perhaps become desirable. In any event, more effective regional coordination of federal activities, a clearer delineation of which are federal and which are state functions, and a better cooperation between federal and state governments appear necessary.

Several institutional mechanisms deserve strengthening in order to facilitate interstate (in distinction from federal-state) coordination of conservation policies. Since authority over important resources is constitutionally left to the states, since many resource problems concern more than one state, and since these problems can be attacked most effectively through cooperative action by all states concerned, the Council of State Governments should, as one of its major objectives, facilitate interstate coordination in the development of conservation policies. This may be done by sponsoring regional conferences, by assisting states in cooperative studies of special resource problems, and by making

appropriate recommendations to the state governments; for these purposes the existing, rather small, professional staff of the Council should be expanded. Along similar lines, the Association of Land-Grant Colleges and Universities may well assist in the development of policies affecting flow resources.

In the execution of conservation policies interstate coordination can best be obtained through state compacts. In the past, use of state compacts has been confined largely to water, oil and gas.³¹ Conservation of land, forests, grazing, and minerals can in many cases be aided by extending the use of state compacts to these resources. The experience gained in negotiating, concluding, and administering state compacts has resulted in a better integration of state policies even for resources which were not directly affected. This educational by-product is not the least contribution of state compacts to interstate coordination of conservation policies.

The foregoing reasoning carries some implications for recent experiments (Tennessee Valley Authority) and proposals³² (Missouri Valley Authority, Columbia Valley Authority, and similar ones) to organize the administration of resource development on the basis of major river basins. In view of existing weaknesses in intra-federal, federal-state, and interstate cooperation, the TVA constitutes a valuable experiment. Whether it is a model that should be used in other river basins would seem to depend on whether there are no better alternatives by which administrative coordination of resource policies could be made more effective.

³¹ Interstate compacts have also been used in the field of labor and taxation policies. U.S. National Resources Committee. *Regional Factors in National Planning*. Washington, Govt. Print. Off., 1935. 223 p. Chap. VI. *The Interstate Compact*, p. 34-52. Chap. VII. *Interstate Compacts—the Colorado River Example*, pp. 53-70. Carnegie Endowment for International Peace. *Interstate Compacts*. Washington,

D.C., 1938. 8 p. (Processed.) Wells A. Hutchins, "Interstate Compacts" (In his *Selected Problems in the Law of Water Rights in the West*), Govt. Print. Off., 1942, pp. 410-413. (U.S. Dept. Agr. Misc. pub. 418).

³² See the following bills: S. 2089, 78th Congress; H.R. 5377, 78th Congress; H.R. 5410, 78th Congress; and especially S. 555, 79th Congress (Murray Bill) and H.R. 1824, 79th Congress (Rankin Bill).

tive in the future. At best, proposed independent administrative authorities for major watersheds would solve the problem of policy coordination for individual geographic areas by replacing existing, regular legislative and executive machinery at various levels (federal, state, local). The essential problems involved in the coordination of national planning (of which natural resource planning is only one aspect) by regions in a unified way for regions, and for the country as a whole, would not be solved and might be complicated and delayed.

On the other hand, if the problems could be solved, separate river authorities would be unnecessary. Possibilities for solution have been suggested in this paper. Furthermore, as has been indicated, regions, from the standpoint of resource policies, are not necessarily identical with watersheds, and the economic importance of physiographic features may change over time. The technological changes mentioned above have generally tended to decrease the relative economic importance of physiographic features. Railroads, hard-surfaced roads, automobiles, aeroplanes, and radio have decreased the relative importance of watersheds for economic differentiation. Technology of water development itself has tended, partly at least, in the same direction. Navigation has decreased in relative importance. Water for power, irrigation, and municipal uses has become relatively more important. Water power is transported in the form of electricity from one watershed to the other. Even water for irrigation and municipal use is so transported, for example, from the Colorado

River to the Pacific Coast and from the Sacramento Valley into the San Joaquin Valley.

We may conclude, therefore, that improvement in administrative coordination of existing agencies at various governmental levels for regions and for the country as a whole appears, in the long run, more desirable for the implementation of resource policies than a partial replacement of existing agencies by new administrative bodies organized on a watershed basis. Technological, economic, and social trends in modern life are in the direction of geographic unification. Regionalism in the sense of cultural and economic geography is decreasing in importance. The recent flood of literature on regionalism in the United States seems to contradict this statement. We are inclined to interpret the academic upsurge in regionalism as a symptom of the stress and strain which necessarily accompany transition. At last, America has become conscious of the values of its regional culture forms when their amalgamation, for long a publicly proclaimed goal, is hastened by technological and economic developments. One may regret the direction of present trends from more general biological-cultural viewpoints. Still, the future does not hold out much hope for the advocates of regionalism.

Decentralization of the federal government, regional coordinating boards of federal and state agencies, and greater use of state compacts were suggested above as steps toward administrative federal-state and interstate coordination but not toward an artificial cultural-economic separation.

Reports and Comments

Land and Politics: Eastern Europe and South America

SINCE the end of the war in Europe probably no area has been the object of so much dissension and conflict as Eastern Europe and the Balkans. The almost complete failure of American foreign policy in this area with the resulting tension in Russian-American relations has been based on an inadequate understanding of the most elementary facts of Eastern European social and economic conditions. The spectacle of poll-tax statesmen in the United States insisting on completely free elections in Bulgaria or Rumania is but one of the many paradoxes of the contemporary international scene.

The Eastern European region is of particular interest to the student of the inter-relationships of land and economics and politics, as this area is still the only one in Europe that has remained essentially agrarian in character, and has retained many of the typical traits of pre-capitalistic societies. Until now we have had impressionistic surveys of the whole area or one or two monographic studies by competent scholars. Hugh Seton-Watson's book on *Eastern Europe Between the Wars: 1918-1941*¹ is the first book on Eastern Europe that is scholarly competent and that uses the most advanced methods of social analysis. I do not hesitate to assert that it will remain the standard work in this field for many years to come. The author is the son of Professor R. W. Seton-Watson, the leading scholar in the English-speaking world on Central European and Balkan Affairs. Like his father, Hugh Seton-Watson has spent years of travel and study in Eastern Europe, is familiar with its languages, and possesses that mysterious sixth sense which has enabled him to *understand* as well as to know. His masterly work is a tribute to the finest traditions of Slavonic scholarship in England

as much as it is a tribute to the English university system which apparently allows a young man in his late twenties to concentrate on a piece of long-term research.

Mr. Seton-Watson's work is focussed on the main six states of the zone that lies between Germany and Russia: Czechoslovakia, Poland, Hungary, Rumania, Yugoslavia and Bulgaria. What makes his study so fascinating is the fact that his fundamental method of approach is social and analytical rather than political-geographical and synthetic. In other words, he is interested in social forces and tendencies as regional problems rather than in this or that country. In the first three chapters Mr. Seton-Watson takes up, in a relatively brief compass, the geography, early history and modern evolution of Eastern Europe. The third chapter is of especial significance as it contains illuminating accounts of such historical problems as the treatment of the nationality problem in the Austro-Hungarian empire, Austro-Russian rivalry in the Balkans, the peace treaties of 1919 and their impact on Eastern Europe, and finally and perhaps most important of all, the evolution from "serfdom to land reform," made possible by the defeat of Germany and Austria-Hungary in 1918. This whole chapter III is history, but history brought to life and endowed with meaning.

Chapters IV-VI deal with the peasantry, the political systems of the region, and with the political experiences, in the interwar years. With the exception of Czechoslovakia all the states under review are inhabited mainly by peasants: in Bulgaria and Rumania the peasants form about eighty percent of the total population. Land reform was more political than economic in motivation and consequences, and was most effective in those instances in which the expropriated landlord class was of foreign national connection. Czechoslovakia accomplished more in this

¹ (New York: The Macmillan Co., 1945), pp. 442.
\$6.50.

field of economic reform than did any of the other five states. In Poland, for example, land reform could never go very far because the regime of semi-Fascist militarists which dominated Poland in the interwar years could hardly be expected to carry out distribution of lands in the "Eastern Borderlands," as the owners of those manors were precisely the men who ruled Poland. Land reform in Poland (as in Germany, Hungary, Rumania, and Bulgaria) had to wait until the Russian armies swept away in 1944 and 1945 the moribund social systems, mixtures of agrarian feudalism and military Fascism, which owed their last stretch of life to German power, itself based on industrial-agrarian feudalism and terroristic totalitarianism. However, Mr. Seton-Watson makes it plain that land reform cannot and will not be the key to the solution of Eastern European economics because cultivable land is relatively scarce and methods of production are backward. Mr. Seton-Watson adduces the interesting fact that pressure on the land in Poland, Rumania, Yugoslavia and Bulgaria is "more severe than in Italy, and very much more severe than in Germany" (p. 98).

Backward methods of land utilization make a bad situation still worse. Comparing Yugoslavia with Denmark, the author finds that "in Yugoslavia, on a given unit of land four times as many people produce three times less wheat than in Denmark" (*ibid.*). As to the kind of industrialization that these countries need, Mr. Seton-Watson makes the excellent point that it must be "planned in accordance with the needs of the country rather than those of foreign capital" (p. 117). This means that the agricultural products, raw materials and timber resources of these countries will form the first line of attack in trying to raise living standards. Unlike many western friends of mainly agrarian civilizations, Mr. Seton-Watson is free from the patronizing and unrealistic adulation of the peasant *per se*: "Romantic nonsense about the stern virtues of the soil-loving peasants, and sentimental rhapsodies about his beautiful costumes and open-air life, only serve to confuse the issue." (p. 118)

In discussing emigration as another way out of the dilemma of overpopulation and land scarcity, the author stresses the fact that Free Immigration disappeared with Free Trade. At the end of the last century and at the beginning of the present one, masses of

Eastern European peasants streamed into the United States, Canada and South America. Restrictionist policies of the United States, based to some extent on racialist theories, have considerably narrowed the outlets of emigration from Eastern Europe. Mr. Seton-Watson mentions the British Dominions and South America as possible outlets for the immediate future. France may again become an important center of immigration for Eastern Europeans, as she was in the interwar years. The author fails to list Russia as a potential focus of attraction for Eastern European peasants and artisans. Immense losses of Russian manpower in the second world war, on the one hand, and friendly political and social systems in Eastern Europe on the other, may well induce Russia to open her doors to a substantial immigration from Eastern and Southeastern Europe. But when all is said and done, Eastern Europe can look to emigration as a palliative and not as a remedy.

As industrialization is a problem of the very long perspective, and emigration a temporary palliative at best, the question of improving agriculture in Eastern Europe within the limitations of what is possible with available means, is of the greatest importance. Mr. Seton-Watson mentions seven categories of measures that have to be tackled in this connection: technical education, supply of credit, regrouping of the existing strip holdings into more rational holdings, cultivation of different crops, development of local and international transport, public works, organization of efficient cooperatives. The universities of Eastern Europe, as those of Latin America, teem with law students and, as the author dryly remarks, "although study of law is an important branch of learning in any modern state, it can safely be said that if there had been fewer law graduates and more agricultural experts in Eastern Europe the countries would have gained" (p. 106). In the field of technical education as in the supply of agricultural machinery, the United States could be of immense aid to these Eastern European nations. The problem of the regrouping of existing strip holdings is economic as well as political. Economically, the majority of all small holders in Eastern Europe are permanently unemployed, as the author puts it, because an excessively large peasant population is crowded into a small

space. Since Mr. Seton-Watson wrote his book, distribution of large estates in Hungary and Poland, the two countries that suffered most from large-scale landlordism, has somewhat ameliorated the problem, though without solving it. Obviously, if small holdings are to maintain any life which is more than an interim between vegetating and dying, some forms of cooperative agriculture will have to be introduced into Eastern Europe.

Mr. Seton-Watson is aware that the Russian system of collective farming may not be applicable to Eastern Europe in all, or even many, instances, but he urges cooperative measures and organizations that may seem rank Bolshevism to ultra-conservative Balkan landlords and politicians, but are every day experience to farmers in the United States, Western Europe or New Zealand. Here again history has confirmed Mr. Seton-Watson's judgment: Russia has carefully refrained from imposing on Eastern Europe collective farming, and has preferred to foster there cooperative techniques which will help to maintain the farmer on his own farm. Politically, the problem of regrouping of strip holdings is linked with the creation of a healthy peasant class as one of the social bases of a functioning democracy. The experience of Junkerism in Germany, the landed magnates in Hungary and Poland, and the great landowners in Argentina, has clearly taught us that flagrant maldistribution of land accompanied by the existence of a peasantry tied to dwarf holdings is a most serious obstacle to popular progress and free government.

Turning to the politics of Eastern Europe, Mr. Seton-Watson first analyzes the complex problem of the formation of native ruling classes, especially in those countries that were created in 1919. Czechoslovakia was the only country of the six studied which had a vigorous ruling class of essentially liberal-bourgeois outlook and composition, not unlike the predominant elements and corresponding ideology in Western nations or in the United States. The peasant class in Czechoslovakia was made up of owners of land which was, on the whole, more evenly distributed and more intelligently cultivated than in any of the other five countries. The Czech Agrarian Party actively participated in the government of the country, and often held more influence than was warranted by mere numbers. The problem of the forma-

tion of a capable and patriotic ruling class was more difficult in the other five states of Eastern and Southeastern Europe. Where large estates were permitted to exist within the framework of formal democracy, as in Hungary and Poland, the ruling classes represented more and more the landed oligarchy, supplemented by middle class and peasant elements who were able to penetrate the higher ranks of the army, police and bureaucracy. In those countries, politically more backward, the peasant parties became eventually nothing but pressure groups for the rich peasants, and were willing to combine with the newly forming groups of business and finance capital. As an illustration, the tax system of the Eastern European countries may be cited. The whole program was designed to "soak the poor." In Rumania, for example, indirect taxes, imposed on articles of popular consumption, constituted seventy-five percent of the total tax revenues. In addition, the ruling classes used another means of squeezing the poor by establishing state monopolies for articles of general consumption, such as tobacco, salt and matches. The Yugoslav Tobacco Monopoly "sold tobacco to the public at a price more than twenty times higher than that which it paid to the producers" (p. 131). Overcharging the consumer and grossly underpaying the producer could, of course, be maintained only as long as the ruling classes could rely on effective police terror. Czechoslovakia was again, in this respect, the only exception to the general rule.

In discussing the political experiences of the Eastern European countries in the inter-war years, Mr. Seton-Watson pays especial tribute to the Czech people. It is still one of the great riddles of modern history how the Czechs have managed to build democracy, freedom, and decency despite all the unfavorable circumstances that militated against success. In a sea of totalitarianism they managed to maintain an island of free institutions and liberal habits of mind. Surrounded by a world of social and economic oppression and distortion, the Czechs were able to forge ahead on the road of social adjustment and peace. Czech public administration was the only one of the six states examined which combined high standards of efficiency with scrupulous integrity, such as is hardly matched anywhere else in Europe,

with the exception of England and the Scandinavian countries. In the treatment of minorities Czechoslovakia, while not perfect in all respects, can nevertheless point to a record which was unique in Central and Eastern Europe. Although the Czechs had been ruled by German-speaking people for four centuries, they did not believe in retribution in 1919 and granted to the German-speaking inhabitants of the Republic a degree of autonomy and self-government such as the Czechs had never enjoyed under the Habsburgs. The Czechs then felt that they could help the Sudeten Germans get rid of the Germanic master race psychosis by an attitude of humane cooperation and of letting bygones be bygones. But the Sudeten Germans did not reciprocate as they were unwilling to consider any Slavic people as being equal to the German master race. Despite all Czech attempts at conciliating the Sudeten Germans, the latter gradually embraced the philosophy of Nazism until Czechoslovakia discovered that she harbored three million fifth columnists. Rarely has a group of people abused the patience and goodwill displayed toward them as did the Sudeten Germans, and their deportation from the new Czechoslovakia is elementary common sense, and not vindictiveness. The Czechs were fortunate in having as their first President Thomas Masaryk, one of the noblest figures in politics that has ever lived and probably the closest approximation to the ideal of the philosopher-ruler in modern times. His ideals were and are continued by his disciple, Edvard Benes. In the field of foreign policy, too, the Czechs were the only people who steadfastly adhered to the Wilsonian ideal of collective security and international democracy. In the years 1933-1939 only two statesmen in office never wavered in their determination not to appease Fascism and Nazism: President Roosevelt and Edvard Benes. Even Stalin thought in 1939 that Nazi Germany could be a party to treaties; and Winston Churchill was not in office in the critical prewar years.

Mr. Seton-Watson's tribute to Czechoslovakia will serve as an antidote to the scurrilous attacks against her made several years ago by former President Hoover and Mr. Hugh Gibson in their joint book, *The Problems of Lasting Peace*. Whether petty ignorance or sterile conservative ideology was responsible for the attack is irrelevant.

That vilification of the Czechs was especially devoid of fairness or graciousness as they have always looked to the United States as the great guardian of democracy.

Thus while Czechoslovakia emerges as the real hero from Mr. Seton-Watson's account, the political experiences of the other five states in the interwar years were much less satisfying. The trend toward dictatorship was inescapable in all five states, and counter-revolution eventually triumphed in all. Next to Czechoslovakia, Yugoslavia was the only other country that showed at least some signs of hopeful development.

One of the most informative chapters of Mr. Seton-Watson's work deals with what he aptly calls "small power imperialism" (chap. VIII). In it he deals at great length with Polish imperialism toward Lithuania, Czechoslovakia and Russia. Poland was so completely dominated by her own Junker class that her "government of the colonels" refused to enter into any agreements with Russia at the time when Nazi Germany readied herself for the annihilation of Poland. The landlord class of Poland identified their group interest with that of their nation, and the Polish people were to pay the price of that confusion. To this landowning group, everything and anything smacked of dangerous radicalism or Bolshevism that might ultimately challenge their feudal pattern of rule, especially in Eastern Poland. Similarly, Mr. Seton-Watson lays bare the workings of Hungarian imperialism in the interwar years. Next to Spain, Hungary had the most antiquated land system in Europe, and it was preserved in the interwar years by a near-Fascist regime of Admiral Horthy that preceded Italian Fascism by two years. The foundation of Hungarian imperialism lay less in the Hungarian "soul" or national character, and more in the Hungarian class of large landowners who quickly re-established their rule after 1919. These landed oligarchs naturally allied themselves with German imperialism in the second world war, as they had done in the first world war. The masses of landless Hungarian workers had little to say when those momentous decisions were made in their behalf by their masters. In 1919 reform in Hungary was prevented by the western powers who preferred Horthy to Bela Kun. In 1945 Hungary has carried out a land reform and has distributed land among hundreds of

thousands of landless peasants. The Russian armies in Hungary finally made possible what the Chancelleries of Paris and London had successfully opposed in 1919. For the first time in her history Hungary held free elections on November 4, 1945. The elections saw the defeat of the Left by the Smallholders Party. But all parties were agreed that land reform was the *sine qua non* of Hungarian rehabilitation and economic reconstruction. For over twenty-five years the Hungarian landed magnates had prevented any measure of reform on the ground that one step would lead to another, and that Hungary had to be saved from Bolshevism. Yet the net result of Russian occupation of Hungary is not Red Terror, but the kind of land reform that the French accomplished in the eighteenth century and that other nations have imitated since.

In the spring of 1944 all Eastern European states were either occupied by the Axis or, like Hungary and Rumania, fighting actively on Germany's side. Mr. Seton-Watson adduces several reasons for the disintegration of the Eastern European system set up in 1919. First, "the rotten internal system of oppression, corruption, ignorance and brutality morally disarmed the Eastern European peoples" (p. 411). Further reasons for this disintegration were the persecution of minorities, tariff wars, and the inability of these countries to build up a real edifice of constructive peace. However, as the author correctly sees, "the fundamental cause of the collapse lies not in the faults of the Eastern European states, but in the policy of the Great Powers of the West" (p. 412). Mr. Seton-Watson mentions only France and Britain and justly indicts them both for their policy of doing nothing and thus handing over that whole area to the mercies of German aggression and conquest.

It is a sad commentary on American foreign policy that the United States is not even mentioned in the author's list of the Great Powers of the West. Like Britain and France, the United States took little interest in Eastern and Southeastern Europe in the interwar years. As long as Nazi Germany dominated this region, American foreign policy showed little concern about the fate of those peoples. Only after these countries had been liberated by Russian arms and inevitably brought into the Russian orbit of influence, politically, ideologically, and eco-

nomically, have the makers of American foreign policy discovered that this region exists at all; and as a consequence a vigorous American foreign policy was developed in the hopeless attempt of interfering with Russia in that area. Before 1939 the United States had a great opportunity to strengthen the ideals of freedom in Eastern and South-eastern Europe in the best traditions of American foreign policy. But that chance was missed, and the future will show whether the United States can recover that opportunity.

From Eastern Europe to South America seems a big jump on the map of geography, but not on the map of economics, politics, and sociology. Roland Hall Sharp gives us in his *South America Uncensored*² one of the best recent surveys of South America. Mr. Sharp has not written the book on South America which still remains to be written. He is a journalist of a very high type on the staff of the *Christian Science Monitor*. He covered 110,000 miles travelling all over South America and spent there several years making contacts with all sorts of people—private citizens, officials, and all who could give him valuable information. Unlike most of his journalistic confrères Mr. Sharp holds a doctor's degree in political science earned at the University of Geneva. His writing is lively as well as thoroughly sound. However, Mr. Sharp has missed the chance of supplying us with an analytical study of the forces and problems as they cut across national boundaries and has adhered too closely to the traditional pattern of taking up one country after another. Not that this method lacks appeal entirely, if presented in the straightforward and fearless style that he commands with such ease. Mr. Sharp is especially interested in the "jungles of Fascism" all over South America. In each of the countries he visited several thousand families own vast tracts of land with all that goes with it. If Mr. Sharp had extended the scope of his investigations by including Mexico, he would have seen how a successful agrarian revolution can form a new social system inspired by a new and more progressive set of ideas. The author's accounts of what he saw in Brazil, Argentina, Paraguay and Bolivia are especially fascinating. Strategic considerations in wartime and

² (New York: Longmans, Green and Co., 1945), pp. 363. \$3.50.

diplomatic necessities of the Good Neighbor policy have made it most difficult for the average American to get a clear picture of the terror and violence that have reigned in South America in recent years. Now that the war is over and Brazil has had her first free elections in over fifteen years, we begin to understand the full extent of the terror and corruption of the late Vargas dictatorship. Mr. Sharp's story of Brazilian conditions under Vargas is not very pleasant to read, but that, of course, is less the fault of Mr. Sharp and more that of ex-dictator Vargas.

The problem of land concentration is probably more acute in Argentina than in any other South American republic, and it is therefore no historical accident that the Argentine government, contrary to the wishes and views of the large urban populations with their democratic loyalties, has persisted in adhering to the Fascist philosophy even after Fascism was so crushingly defeated in Europe and Asia. The dictatorship of Col. Peron is not unique in the annals of Latin America insofar as it practices violence. What differentiates it from all preceding dictatorships in recent times in Latin America is the fact that the Argentine rulers who seized power in June 1943, are the first Latin American government to declare that they are opposed to democracy as an ideal and guiding principle. In this respect, the Peron clique marks a new era in Latin American history. Mexicans compare contemporary Argentina to their own country in the pre-revolutionary days of General Porfirio Diaz, and the future will show whether the Argentine people will be able to break the stranglehold of the agrarian oligarchy by peaceful means, or whether revolution will be the only solution, as in Mexico in 1910.

What Mr. Sharp rightly emphasizes throughout his book is the failure of American policy to strengthen democratic forces in South America within the bounds of what is diplomatically lawful and politically expedient. Fortunately, the outlook has changed in the meantime. Mr. Spruille Braden is now in charge of inter-American relations in the Department of State, and they could hardly be in better hands. As American Ambassador in Buenos Aires he openly defied the Nazi rulers of the Argentine people, thus upholding the finest traditions of American foreign policy as they were

established in the decade of 1810-1820, and renewed from time to time since that period.

Mr. Sharp frequently discusses the reactions of South Americans to the United States policy of siding with Latin American dictators on too familiar terms. In particular, what raises suspicions and doubts among Latin Americans is the frequent tendency of American diplomats to endow any Latin American dictator with the full credit of democracy as long as he cooperates with the United States. This whole topic is the subject of a volume called *What the South Americans think of Us*.³ Carleton Beals reports on Ecuador, Peru and Bolivia, Bryce Oliver on Brazil and Uruguay, Herschell Brickell on Venezuela and Colombia, Samuel Guy Inman on Argentina and Chile. When I first saw the title of the book, I naively assumed that at least one South American could be found who could tell us what South Americans think of us. However, this supposition was a matter of pure naiveté, and so we are told by four American reporters what *they* think the South Americans think of us. Nevertheless, the book is worth reading, because it tells us how such well-known writers as Beals and Inman judge our relations with Latin America. There is nothing startlingly new in the volume, but those who like Mr. Beals' tough and realistic style, and those who are fond of Mr. Inman's more psychological approach, based on intimate knowledge, will enjoy to go through the book and will find it profitable in places.

Eastern Europe and Latin America have much in common in terms of agrarian disorganization, illiteracy and political immaturity. Until now, both areas have been allowed to stagnate in a vacuum of *laissez faire*, interrupted occasionally by imperialistic ventures. The Good Neighbor Policy has created a greater volume of goodwill toward the United States than has existed at any time since the first third of the nineteenth century. We also gradually begin to understand that if the colonial, essentially agrarian and raw-materials producing economies of Latin America are to emerge from the stupor of low living standards and technological backwardness by means of increasing industrialization and scientific agriculture, the United States is the one country

³ (New York: Robert McBride and Co., 1945), pp. 400. \$3.00

that can supply the technical knowledge and the financial resources. In Eastern Europe, Russian influence finally makes an overall plan of economic progress possible in which all classes of the population will share. The next twenty or thirty years will supply the evidence as to how the United States planned, or failed to plan, for the economic rehabilitation of Latin America, as

compared with the Russian effort to bring economic and political stability into a region in Eastern Europe that has known neither until now. In both cases the success or failure of overall reform will be indicated by the ability to solve the land problem justly and intelligently.

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Garden Cities and the Metropolis: A Reply*

A serious discussion of the Garden City idea in the American press is so rare that Lloyd Rodwin's article on "Garden Cities and the Metropolis" in your August issue was doubly welcome. But this very fact makes me disagree with some of the emphasis of the piece as heartily as I agree with many of its specific points.

A foreigner might judge from it that a large and influential body of citizens is demanding the establishment of isolated, self-sufficient, new towns of 30-50,000 population as a major planning policy for the country. And if this were true it would certainly be worth while thus to emphasize the well-nigh insurmountable forces operating on the side of larger, more complicated, urban agglomerations.

Actually, however, the Garden City movement in its pure original form was never dead in this country.¹ The phrase itself has been popularly corrupted to signify nothing more than a segregated upper-class suburb of orderly, one-family homes. And even Radburn and the Greenbelt towns, most serious American efforts, are strictly dormitory communities.

Indeed, the idea of planning and building a complete, new, self-contained city in virgin territory is so foreign to our current thinking that we do not even grasp the chance when it is handed to us on a platter—as it is, for instance, in the impending reclamation and settlement of the Columbia Basin in the Northwest. Here most of the usual obstacles are nonexistent. There will be at least a quarter of a million people in a region where almost none live today. New towns of substantial size will spring up, in any case, to serve as agricultural processing and market centers, and cheap power may bring other

industries there as well. The federal government already controls water distribution (hence platting) and is committed to buying up most of the land in the Basin in advance of settlement. And yet . . . almost no one is seriously concerned with this opportunity to demonstrate a modern urban environment from the ground up.

This is of course a special case, though but one example of the implications for town-building of continued population movement within the United States. Mr. Rodwin rightly anticipates further inner migration, particularly from farms to towns, but for some curious reason finds this an argument *against* the feasibility of developing complete, new cities.

Granted, however, that the primary, immediate problem is the reorganization of existing metropolitan regions. But is it true, as Rodwin suggests, that the Garden City philosophy therefore has little more to offer us? Perhaps that philosophy cannot be quite so easily demolished by too literal and too exclusively-economic analysis. Were isolation and self-sufficiency really the core of the idea, or rather, the principle of a balanced environment, favorable to the family, designed at human scale?

If England is ahead of us in urban planning and housing policy, isn't it partly because the revitalized Garden City movement helped to clarify and dramatize these basic modern principles? The County of London Plan is outstanding just insofar as it limits exterior spread, provides open space within reach of everyone, reorganizes central districts into community units serving varied groups and functions, puts homes in some defensible

¹ Although it is true that the atomic bomb seems to be reviving some loose talk about complete decentralization. And on this point I am in complete agreement with Mr. Rodwin: it would be worse than useless to try to gear city planning to the fantastic potentialities of atomic warfare.

* Lloyd Rodwin, "Garden Cities and the Metropolis," this *Journal*, August 1945.

relation to work-places, and lowers densities—elements in the Garden City idea and, to a considerable extent, attributable to its influence. And it is weak just in so far as it does not give full weight to the terrific centripetal force of the desire for open space and private gardens.

All this is recognized by Mr. Rodwin to a certain degree but he believes that what is useful in Howard's idea has already been incorporated in contemporary city-planning thought and practice. He suggests that urban land policies are now crystallizing, and that even municipal land ownership may soon

be expected to become an ordinary planning instrument. I wish I were as optimistic. But how many cities are even beginning to think in terms of drastically lowered densities in central areas? What metropolitan region has yet faced the need (let alone devised the tools) to prohibit fringe development and guide new building into satellite communities containing a healthy variety of people and a sensible balance of home and shops, work and play, building and open space? It's too soon to bury the Garden City movement.

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Boston, Mass.

Garden Cities and the Metropolis: A Reply

MR. Lloyd Rodwin's study of the Garden City and the Metropolis deserves careful scrutiny and criticism: it raises anew many issues which, had they been adequately discussed twenty years ago, when the Regional Planning Association of America first brought them to the front, would have kept the United States from being as backward in its dominant city planning concepts and efforts as it actually is today. In the act of refuting an erroneous concept of the Garden City Mr. Rodwin has actually vindicated Ebenezer Howard's masterly proposals.

Despite his efforts to be just and clear, Mr. Rodwin tends throughout his article to confuse three quite different processes: open order planning, population dispersal, and decentralization by urban reintegration—that is, growth by the Garden City method. As to the military grounds for dispersal, I join with Mr. Rodwin in dismissing them, not because I think that the metropolis is not a military liability, but because I believe that the only possible security against a war of extermination must be found on the level of world government: otherwise civilization itself, if not actually life in any form, will come to an end.

This being admitted, I think that Mr. Rodwin ignores at his peril the actual weaknesses of high density planning, even as disclosed in such a relatively open city as London. London did *not* survive the bombing as well as did the rest of England: more than half the houses destroyed in England were in the London area, though this constitutes less than a fifth of the entire population. Nor has Mr. Rodwin reckoned with the wide-

spread dispersal of essential industries into smaller centers that occurred during the war. The fact is that open order planning is an organic part of our present civilization: like open order formation in battle. Close order planning is a survival of the eighteenth century; not only is it obsolete and inefficient, but it fails to take advantage of the advances that have been made in communication and transportation since the moment when the million-city crystallized at the beginning of the nineteenth century. If we continue this obsolescent pattern of city growth, we do so at a heavy price.

Now let me deal specifically with Mr. Rodwin's criticism of Howard. He criticizes Howard first of all on the ground that he did not understand the inevitable nature of the rural migration that was taking place in England during the second half of the nineteenth century: here he takes the conventional economists' view that an economic fact is by its nature also a social reason. Even allowing for that bias, is he not also generalizing an American experience and applying it automatically to England? During the period before the first World War there was no rise in agricultural productivity in England; on the contrary, much of the arable was converted to grazing, and as a result of this tendency, which made England rely upon imported vegetables and dairy products, the country was placed in great peril of starvation during the U-boat blockade. During the second World War this threat was averted only by putting more land under production: a total mobilization of agriculture.

Half a century ago Howard sought to speed this wartime process by giving the English farmer a local market; he sought to produce permanent greenbelts around his garden cities without sterilizing the land so used and devoting it to non-agricultural purposes. Instead of forcing England to draw upon the Dutch and Danish market gardeners, he sought to give them an opportunity to restore their local agriculture. Mr. Rodwin regards this as a mere prejudice on Howard's part. Has he not possibly prejudged the prejudice? Looking at England's food situation during the last two wars, it seems to me that Howard's proposals might be termed equally far-sighted statesmanship: had he been heeded, a great deal of fertile soil would not have been converted into futile suburbs.

Now as to the desirable size for a city. From my point of view, as from Howard's, size, when it reaches a certain limit, is a radical defect, for two reasons: first, because it removes the possibility of maintaining a balanced environment; and second, because the mere mechanical massing of the population creates difficulties which can be overcome only by an undue expenditure of capital and income on the means of existence: that is to say, on measures which, though they produce no good in themselves, are necessary in order to overcome the defects of congestion. Expenditures on duplicating rapid transportation systems, on creating elevated express highways, street-widenings, and so forth, are of this nature: likewise the additional expenses that must be borne in order to tap more distant sources of water supply. The case against overgrowth here can be put in purely economic terms, if you will, without any reference to the quality of life, and it will hold on those terms alone.

As to Howard's desire to work on virgin soil, the case is quite simple. Even the new suburbs were built, for the greater part, on virgin soil: in that respect he proposed to do nothing that the metropolitan real estate developer did not do. In an effort to combat suburban dispersal, however, Howard proposed a quite different order of growth. There is no hint in Howard or in later continuators like F. J. Osborn that he expected London to be wiped out of existence by the acceptance of the Garden City principle: what Howard provided for was that new increments of population should not be

automatically added, as a continuous area, to the existing metropolitan mass.

Though Mr. Rodwin professes interest in rehabilitating and re-building the blighted areas in our American cities, he overlooks the powerful lever that a well-organized Garden Cities movement in America would give us for accomplishing this task. The chief obstacle to the internal improvement of the city is the prevalence of high land values. If there were a regional authority capable of saying to the land owners: Either you make a reasonable compromise on values and lower them to a price at which we can re-house the population on a decent neighborhood pattern or we will build new Garden Cities and let your properties rot, that authority would be in a better position to go ahead vigorously with a policy for inner rehabilitation. In any event, no adequate urban re-planning can be done in our bigger centers without building new communities for the surplus that cannot be rehoused on the original sites. In his plan for greater London Patrick Abercrombie proposes to build ten Garden Cities of sixty thousand people each. In making this proposal Sir Patrick has cut the ground from under Mr. Rodwin's argument on the basis of English experience.

I come now to the matter of comparative costs. Mr. Rodwin is wrong, I believe, in thinking that rural land is not cheaper as a rule; for, if an open pattern of development is used from the beginning, the Garden City is able to reduce the unnecessary costs assumed by past urban developments, with their wasteful duplication of excess streets and excess utilities. I grant that some of these wastes can be written off in a scheme for rehabilitating a blighted area so that, if land values were lowered sufficiently, it would be possible and prudent to use the existing site. But land values are the rub: hence the processing of rural land into urban land with the opportunity for more economical layouts and for simpler forms of domestic construction gives the Garden City an advantage. Letchworth got into financial straits, not because it used rural land, but because the planners, then inexperienced, believed that it would be cheaper to provide the entire street and utilities system at the outset; while experience showed that it was a mistake to freeze so much capital into that investment long before it could be used. This mistake was inexcusably repeated at

Longview, Washington: and of course it has been repeated in a thousand other municipalities, where it has become one of the large factors that make for insolvency. As for Welwyn's difficulties, they were almost wholly the result of a national economic collapse, which local planning could neither anticipate nor avert.

But Mr. Rodwin's main argument against the Garden City proceeds from another premise; for he assumes on page 275 that Howard was interested in promoting self-contained, self-subsisting urban units, and he therefore reproaches the management of Letchworth for stressing its proximity to London. Here Mr. Rodwin scores an easy victory; but it is a victory over a dummy opponent, not over the Garden City idea. Howard's guiding idea was balance and completeness, not self-sufficiency: he asked the critical question: How large must an urban community be to perform all the functions of a full-fledged city? There may be other answers than Howard's first tentative scheme for 32,000 people; but the approach to the question was as rigorously scientific (that is, experimental) as the proposals of Le Corbusier and the M.A.R.S. group have been casual and conventional. Mr. Rodwin does Howard an injustice in trying to associate his ideas with those of people like Borsodi or other so-called decentralists. Indeed, once Howard had defined the area and population of a single Garden City he went on to show how much more effective for every kind of social and economic purpose a group of such cities would be. Is it possible that Mr. Rodwin could have skipped the chapter on "Social Cities" or missed its significance? Howard not merely called such an association of cities a "town-cluster;" he even proposed to unite them more closely by a special system of rapid transportation. Howard realized, as apparently Mr. Rodwin does not, that a million people, grouped in twenty or thirty Garden Cities, would have advantages for living that a million people grouped in a unitary city do not possess. In a properly organized cluster of Garden Cities the worker could travel twenty miles to work faster than he can travel five under congested conditions. The openness that the green belt provides is a factor making for speed.

In hinging this part of his argument on the economic necessity for the "journey to work"

Mr. Rodwin is leaning on a weak reed; for Miss Liepmann is even more scandalously obtuse than he is to the well-defined character of a Garden City, and her confusion is so multifold that she even indentifies the Garden City with its varied industries—varied and multiple by *definition* and *design*—with the single industry "company town." It is true that the Garden City seeks to reduce the modal journey to work to one that should not exceed walking distance, except in the case of noxious, segregated industries. It is absurd to imagine that the long "journey to work" is a monopoly of the metropolis; indeed, Miss Liepmann recklessly uses instances that show, in the teeth of her thesis, that *accessibility*, not metropolitan *congestion*, is the key to a variety of economic choices. Under hard necessity, the workers in a Garden City might take journeys equal in length to those made inevitable in the overgrown metropolis. The existence of a balanced city would diminish such a misuse of human time, I have no doubt; but it would not prevent the worker from looking elsewhere any more than it does in the crowded metropolitan area.

Apart from the "journey to work" argument, Mr. Rodwin's main case against the Garden City is not against Howard's idea but against open planning. "By spreading the area," he points out, "costs are increased for transportation and community services of all kinds." This generalization is certainly open to many qualifications; and the fact is that it applies least of all to Garden Cities for the reason that the spread of the Garden City is kept within bounds by the greenbelt. Once the population and the area is unduly increased, his generalization becomes more valid so that it is a just stricture upon suburban sprawl. Argument on these grounds does not touch Howard's original proposals: has Mr. Rodwin not perhaps missed the fact that Howard's prospectus gave the Garden City a density of from 80 to 100 per acre?¹ In confusing open planning and Garden City development Mr. Rodwin has taken the untenable line that many of the younger English critics have taken; a line that can be explained only on the theory that they read *Garden Cities of Tomorrow* blindfolded, since the vices they denounce have nothing

¹ See my introduction to the new edition of *Howard's Garden Cities of Tomorrow*, edited by F. J. Osborn, (London: Faber & Faber, Ltd.)

to do with either the general or specific proposals for the Garden City.

One more point and I am done. It has to do with a singular generalization Mr. Rodwin makes toward the end of his article: namely, that "thinking, however imaginative, must reflect continuities, not mutations, if it is to find practical expression." Does he seriously believe this? If he does, by the same token people who sought to improve transportation should have devoted themselves to breeding faster horses, rather than inventing railroads, motor cars, or airplanes. Each of those inventions was a mutation, not a continuity. Indeed, at the turning point of a civilization (which is where, it seems to me, we are today) continuities inevitably represent inertia, the dead past; and only mutations are likely to prove durable. Because we are afraid of mutations, because we wish to sink back into an obsolete economic and social pattern, housing and city building in prosperous America are threatened with complete stagnation, while most of our new structures—like New York's model housing—are thirty years out of date

at the moment they are finished.

Today, the principle of continuity, blindly applied to our institutions, means the persistence of the forces that have made for decay and destruction. If we create a World organization that is capable of saving us from a final war of extermination, it will not be the national state "writ large." And if we create adequate cities for this new era, it will not be by crystallizing in permanent structures—slightly more hygienic and tidy—the forms that were produced by an era of unco-ordinated expansion. The Garden City is not, admittedly, an accessory of metropolitan development: it must, in time, replace even the inner tissues of the existing cities. In fifth century Rome, I would remind Mr. Rodwin, it was not the continuities of baths and stadiums, but the mutation of the new monastery, that proved itself an effective adaptation. Whether we are on the brink of a new Age of Darkness or an Age of Light, *the fifth century is already here.*

LEWIS MUMFORD

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Garden Cities and the Metropolis: A Rejoinder

CATHERINE Bauer, Lewis Mumford, and the writer are in agreement on at least one point: there is a vital need for clearer and more rigorous thinking on urban problems. I hope that their comments and my reservations may contribute to this end.

The central thesis of my article was that E. Howard's Garden City ideal, significant and influential as it has been, has developed serious flaws because of "inadequate or unrealized assumptions on rural migration, population growth, industrial location, the journey to work, comparative urban costs and municipal government and administration." (p. 270) My two main conclusions were: (1) that the era of chaotic city building had long ago reached its climax: most new cities, where justified, should probably be balanced and diversified satellite communities within reasonable distance of an existing (and, I hope, improved) metropolis largely because of the imperatives of industrial location and the importance of maximizing employment opportunities; (2) that we have to revise and go far beyond Howard's thesis if we intend to cope adequately with the central problem of the future: how to rebuild our

existing cities and solve some of their pressing difficulties.

Catherine Bauer poses some interesting questions. I shall take up her remarks in order for the sake of pointing up the issues:

(1) It is true that the Garden City movement has no mass support in this country. But there are *important* figures like L. Mumford, A. Mayer, C. Stein, and C. Bauer who back it more or less; and there are others like F. L. Wright and R. Borsodi who *in some respects* reflect a parallel philosophy which embodies some of the basic weaknesses. In addition, many of our city planners often look to England for inspiration and the movement is undoubtedly powerful there. But even if the idea doesn't have strong backing, that is no reason to immunize it from analysis. Perhaps the virtues are not given due consideration *partly* because of overlooked defects.

(2) New cities will undoubtedly spring up with the development of the Columbia River basin; and E. Howard's ideas on planned communities (his views on government excepted) are much more relevant and applicable under the circumstances which

Catherine Bauer described. Allowance for just such situations was intended in my article when I specifically indicated (p. 272) that new cities can be expected to "emerge through interregional migration of industry and population, resource development programs, and new inventions, processes and products." My point was that Howard's thinking was largely predicated on the 19th century experiences of city development and expansion, whereas we, today, "are less concerned with the problem of the creation of cities" given the present population curve and the fact that most of our cities have already been built. C. Bauer seems to be in accord with this view: she characterizes such new Columbia Basin cities as "a special case" and grants the primary problem of reorganizing "existing metropolitan regions."

(3) I am at a loss to understand why my comments on the migration from farms to towns lead C. Bauer to conclude that I am arguing *against* the possibility of developing complete, new cities. Quite the contrary.

Point 2 above already suggests those cases where I think new cities will and ought to emerge. Also, in concluding the section on rural migration, I suggest that instead of "backing the tide, it is important to understand its implications, prepare for the necessary readjustments and recognize that new opportunities must be made available for those who prefer or will be forced to leave. Industrialization, perhaps the creation of new communities, and certainly the growth of already established areas will help in absorbing the surplus or badly situated population." (p. 271) Aside from these instances, part of the thesis of my article, as already indicated, is that most new communities, *where justified*, must develop in some rational relationship to existing cities. These conclusions were drawn in the sec-

tion dealing with Industrial Location and the section on the Journey to Work.¹

(4) I shall touch upon the question of the isolated and self-sufficient Garden City a little later since both Mumford and Bauer raise the issue.

(5) C. Bauer's contention that England is ahead of us in housing partly because of the Garden City movement is true but misleading. In my article I call attention to the importance of many of Howard's ideas, particularly those relating to well-integrated cities, planned land use and controlled size and growth. These ideas, I said, "have become the framework of modern urban planning;" (pp. 269-70, p. 280) and I also underlined "the large debt" we owe to "the energy and evangelism of his followers in the Garden City movement" for helping to popularize and implement these principles. But serious flaws still remain; and to whitewash Howard's thesis solely on the basis of the valid elements is dubious argumentation. For example, if Communists help sparkplug reforms in labor legislation, political action and the labor movement, that does not make Karl Marx's *Das Kapital* sound. Important portions of it may be correct just as parts of Howard's proposals were.

It is also important to note that, at least during the past decade, the Garden City movement has deviated in some significant respects from Howard's original proposals, as for instance in the recognition of the need for keeping new cities "within reasonable distance of a big community."² Also, the influence and effectiveness of the movement is partly attributable to the then prevailing vacuum in city planning thinking which it helped to overcome; but perhaps its effectiveness might have been more commendable if the movement didn't throw its influence behind the dreary and ex-

¹ More specifically, in the section on Industrial Location, I said: (a) "Once again, modification of the Garden City hypothesis seems warranted, this time as a result of evidence culled from the requirements of the market. Balanced satellite communities near the borders of the metropolis appear to allow more plausible patterns and seem to be gaining adherents. Not Letchworth, but Welwyn and Wythenshawe are looked upon even by Garden City proponents as the more hopeful types of development." (p. 275) (b) In concluding my discussion of the Journey to Work, I refer approvingly to the views of PEP and Kate Liepman, both of which I found more realistic. I noted that "only groups of communities can furnish the flexibility required to maximize employment and stabilize the economic base of the region. Kate Liepman, approaching the problem from the point of view of the individual, believes

the journey to work must ultimately be accepted as a necessary price paid for greater industrial stability, superior employment possibilities and a higher standard of living: Satellite communities, possessing a fairly self-sufficient social and economic life of their own, though dependent on a larger metropolis, tend to be favored solutions. This arrangement, she believes, seems to represent an optimum balance securing both the advantages available within the satellite communities such as near-by employment opportunities and the economic as well as cultural opportunities offered by a large city." (pp. 276-7)

² *Minutes of Evidence* taken before the Royal Commission on the Geographical Distribution of the Industrial Population, p. 647; pp. 649-55.

pensive low density building philosophy, or more far reaching if it grappled more directly with other pressing problems of the existing metropolis such as necessary political and administrative interrelationships, to cite only one example. After all, one can be in favor of the things C. Bauer approves of (namely, limiting exterior spread, more open spaces, reorganized central districts, a more defensible location of home and factory, and even lower density) without swallowing literally the Garden City thesis.

(6) Perhaps I exuded too much optimism about the extent to which the useful elements in Howard's thinking have been incorporated in contemporary city planning and thought. Truth of the matter is that I was thinking more in terms of what the leaders of the planning fraternity generally have come to believe. Most of the recent literature on city planning seems to accept the need for controlled growth, better planned subdivisions, metropolitan councils of some form, land reserves, etc. And steady reduction of the gap between thought and practice seems to me reasonably probable. As for urban land policies being used as planning instruments, C. Bauer, I am sure, knows that if the Wagner-Ellender-Taft Bill (S1592) is passed, municipalities will secure financial aid to purchase land in redevelopment areas and may, with suitable controls, resell or lease this land for use in accordance with the experimental urban redevelopment program.

Still, C. Bauer is quite right: it is too soon to bury the Garden City movement, though we're going to have a lot of difficulty in reviving the corpse, which, as she says, "was never dead in this country." If the Garden City thesis is not to be interred, it better become self-correcting in light of stubborn facts which deserve recognition.

Mr. Lewis Mumford has challenged more directly some of the positions taken in my article. Let us consider these points in order:

(1) I share Mr. Mumford's views that salvation of our civilization must come through some form of world government and not through the dispersal of cities. But if we ignore for the moment the possibilities of atomic bombing, which renders any form of city structure vulnerable, then I believe Mr. Mumford's arguments on the military weakness of the metropolis are not at all decisive. Experiences of most of the great cities as strongpoints for defense are overlooked.

Moreover, the figures on the number of houses gutted in London in proportion to the rest of England are inconclusive as long as Mr. Mumford does not know or at least specify the proportion of air attacks that London endured compared to the rest of England. More actual protection may have been possible at London than at Coventry and other areas because of the concentration of defenses. Finally, G. Gibbon has pointed out before the Barlow Commission that it is also easier to conceal industries in a metropolis.³ I frankly do not know the answer. Probably less congestion and more open spaces would have reduced London's vulnerability. In my article I simply called attention to this *other point of view* which Mr. Mumford apparently chooses to ignore. If the atomic bomb had not disposed of the issue, it might have been worth while to conduct some research on this subject.

(2) In my judgment, advances in communication and transportation do not alone warrant the type of locational shifts which Mumford in his writings sometimes seems to imply. Because factories and workers have much more mobility than was possible in the past does not prove that they ought or will move as far as is technically possible. One might equally well argue that never before has it been possible to support a relatively compact urban population of more than one or two million. New inventions, like the use of complicated transportation systems, new forms of energy and communication, advances in sanitation and health, etc., make possible the massive cities of today. But, of course, the argument is just as fallacious. Possibility is one thing; desirability another. Where and how our industries and homes should be located must be decided on other grounds. Economic and social analyses are relevant here. Those who favor a specific urban ideal and "quality" of urban living would do well to reckon the costs if only to weigh better the price that may and perhaps ought to be paid. But Garden City advocates are sometimes curiously reminiscent of agriculturalists who favor more farming to preserve the rural way of life without recognizing that inadvertently a depressed standard of living may also be entailed.

(3) My views on rural migration were meant to apply to British as well as to Ameri-

³*Minutes of Evidence*, op. cit., p. 962.

can experience; and the evidence comes not from analogy with American experience but from the testimony of some of the most renowned British economists and agricultural experts. Mr. Mumford's assertion that the productivity of British agriculture has not risen in this period is quite curious in light of the great improvements in technique which have occurred through the nineteenth and twentieth centuries. Yield per acre for the principal crops experienced only negligible increases because of changes in farming practices resulting in *lower intensity* of farming.⁴ Total gross output increased from 25 to 40 per cent from 1870-1908 despite the drastic reduction in arable acreage.⁵ The issue of productivity, however, is not at all crucial to the argument. Acreage declined partly because of the shift to types of farming which did not have to face competition from abroad and mainly because it was cheaper and more efficient to buy food from abroad than to produce it at home.⁶ To have kept more farmers on the land and purchased less from abroad would have clearly forced a lower standard of living for British agriculture and for the whole population, a fact commonly recognized by most economists, conventional or otherwise. That this truism applies specifically to Britain is recognized by Prof. D. H. MacGregor's report as a member of the Agricultural Tribunal of Investigation (1924); by Astor and Rowntree's detailed and comprehensive analysis of "British Agriculture"; and particularly in the admirable analysis on "The Maintenance of Agriculture" by Prof. S. R. Dennison in his brilliant minority statement included in the Scott Report. (pp. 100-108) Mr. Mumford's position would have been much more tenable had he maintained that some of the better agricultural land might have been preserved if sprawling suburban expansion had been more effectively controlled; but this fact, of course, is quite consistent with my argument on rural migration.

Mr. Mumford then insists that lack of a strong agricultural base put the country in great peril in two wars so that in retrospect Howard's policy suggests far-sighted statesmanship. This type of reasoning is an

example, I think, of how Mr. Mumford sometimes tends to put current notions into Howard's proposals when it is quite clear that he never thought along these lines. And if Howard did have such ideas, he would rightly deserve the sharpest criticism for advocating a policy-breeding economic autarchy, a policy which it is indeed surprising to find Mr. Mumford condoning by implication. Moreover, let us not forget that the argument of wartime security is highly questionable, if not completely wrong. The very fact that England indirectly could obtain more food by employing labor and capital in manufacturing goods for export not only raised the standard of living but gave England an advantage over Germany where "it normally takes 162 men to provide food for a thousand consumers and only 98 in England."⁷ If England had to put 3 million more people in agriculture to feed the nation, the country might have been in a much more perilous position. England's ability to wage war (or prevent it) depends to a considerable extent on her financial and commercial strength, her merchant marine and her business relationships, all of which would be gravely handicapped if a policy of self-sufficiency were adopted.

Consider also the flexibility that the opposite policy allows. During the war England was able to mobilize totally her agricultural resources while with her merchant marine she tapped still additional sources. And now, England can curtail the uneconomic agricultural production and specialize in those activities in which she is most efficient and which will allow a much higher standard of living for all. In short, "the need for security is not denied, but it will not be achieved by methods which are wasteful of manpower in war as well as in peace. The most effective way in which to achieve security is by the holding of stocks of food and a reserve of shipping. Not only is this the cheapest method in time of peace, but it also makes it unnecessary to use resources for food production which are sorely needed for other purposes in time of war. Thus the maintenance of a large agriculture

⁴V. Astor and B. S. Rowntree, *British Agriculture*, London: New York: Longman's Green & Co., 1938, p. 43.

⁵*Ibid.*, p. 52.

⁶*Ibid.*; see also *Report of the Committee on Land Utilization in Rural Areas* (Scott Report), London: Ministry of

Works and Planning, His Majesty's Stationary Office, 1942, p. 14. Incidentally, in the course of his discussion, Prof. Dennison emphasizes that "agricultural efficiency has certainly increased in the last hundred years."

⁷*Ibid.*, p. 105.

in peace time does not render [England] more, but less, secure."⁸

(4) A city's size is doubtless a radical defect after a certain point; but I know of no convincing evidence or useful working criteria that would clearly tell us *when* that point is reached. Research on this subject is urgently needed. First, however, our thinking should be rid of a certain looseness. Size, after all, is a quite ambiguous notion. Area and population are essential components; and both are intimately related to the density controversy. Moreover, the way land uses are organized within the city will vitally affect the final decision; and similarly, the changing scope of political jurisdiction will add another dimension to the problem of defining the size of a metropolis. Imbalance and congestion, the limiting factors which Mr. Mumford suggests, are vague and leave the solution indeterminate. Is a "big city" necessarily congested? Does it inherently lack "balance"?

In my article, I, too, emphasize that "it is useless to create superhighways, wider roads and countless mechanical contrivances to solve expensive and dangerous traffic problems unless we are equally clear as to functions reasonably anticipated by our communities and the optimum size and facilities needed to fulfill these requirements." (p. 280) Such difficulties are a consequence, not of size as such, but of sheer bad planning or failure to plan. Mr. Mumford, I suspect, is probably right if he is thinking about the existing morass in which most of our present cities are wallowing and particularly of the fact that they have never intelligently attempted to control and direct their growth and development; but he is on less certain ground if we consider whether most of these abuses are *necessary* concomitants of size. That is one reason why I am inclined to question another and more specific maximum which he usually sets to the size of a city: viz., the point that will enable it to have a net reproduction rate of 1.0. The emphasis, I think, should be placed on the other desirable goals he favors such as the need for minimizing congestion, redistributing income, improving community services, redefinition of neighborhoods, increasing the number of playgrounds and

open spaces, securing better and cheaper housing for large families, and reducing generally the uncertainties and frustrations of our contemporary civilization. Size is properly a function of the services to be performed, as Mr. Mumford so aptly indicates in *The Culture of Cities*,⁹ whereas its relationship to the birth rate is ambiguous if not negligible.

(5) (a) I had no occasion in my article to charge that Howard favored wiping London out of existence.¹⁰ My point was that Howard at most expected London to turn into a Garden City; but he never suspected that his Garden Cities would depend upon the "Great Wen" for their existence.

(b) Somewhat inaccurately, Mr. Mumford charges that I overlook the effect of a Garden City movement in curbing high land values in the city's center, as well as the effect of artificial values on land costs. The question was not directly relevant to any of the specific points raised in my discussion; and the fact that I disagree with certain phases of the Garden City idea does not mean that I ignore the advantages of siphoning off high land values by building on rural land. My conclusion in favor of satellite communities suggests the possibilities I had in mind. Partly to avoid misunderstanding, I did indicate in a footnote that "methods for squeezing out these values including both peripheral building and stringent enforcement of various police regulations should help ease development at practicable costs." (p. 277) One need not be a Garden City advocate to achieve this result. Satellite city and peripheral development can perform the same function.

(6) (a) Comparative cost analyses are elusive. Mr. Mumford seems to be answering my doubts with strong opinions. I simply called attention to the fact that the question of costs has been too glibly handled in the past. Studies of comparative social costs, I noted, are extremely difficult to make because of the slippery variables involved. Mr. Mumford points to one side of the ledger when he emphasizes the avoidance of costly street patterns which is possible when building on vacant land. There are other costs to be reckoned with: the waiting costs for land purchase (even if we don't put all the utilities

⁸*Ibid.*; see also V. Astor and B. S. Rowntree, *op. cit.*, pp. viii-ix and chap. II.

⁹(New York: Harcourt, Brace & Co., New York, 1938), pp. 486-8.

¹⁰I did say that, according to Howard's ideas, "metropolitan areas like London were to be emptied of their excess inhabitants." L. Rodwin, *op. cit.*, p. 269.

in immediately) as well as the industrial and other site development costs to encourage relocation; and then there are the wasted facilities already available in existing communities. The answer, assuming a general one can be given, is, in my judgment, much less certain than Mr. Mumford supposes, and the issue is not resolved by affirmation.

(b) Although the premature investment in streets and utilities undoubtedly contributed to Letchworth's financial straits, other factors equally, if not more, important were also involved according to the memoranda and testimony of Letchworth's directors placed before the Barlow Commission. Difficulty in attracting industries because of poor location was particularly stressed.¹¹ Government assistance to sustain the Garden Cities during the development period with its attendant "waiting costs" has also been sought.¹² The impact of "waiting costs" resulting from development on raw land is a function of the speed with which development occurs and Letchworth, of course, was particularly slow not only for the reasons mentioned but also because it was an experiment. Welwyn would have fared better as a result of its superior location and the impetus of the housing shortage, were it not for the offsetting elements of inflated costs and an economic slump.¹³

(7) (a) Mr. Mumford misinterprets my reason for harping on the fact that the management of Letchworth stressed its proximity to London. It was not a "reproach." Their conduct is quite sensible. I merely call attention to the inconsistency it reflects in Howard's thesis. Likewise, in saying that Howard overlooked industrial location trends, I did not deny his emphasis on one type of balance and completeness.¹⁴ His "balance" and "completeness" were conceived of within the community or town cluster but not in relation to existing cities. Nowhere in his volume can one find a thorough consideration of the conditions that would influence the location of a Garden City. Quite the contrary: all signs seem to point to almost

any area outside the metropolis where taxes and land are cheaper; and yet anyone who attempts to develop a practicable scheme for founding new cities should have thought carefully on this subject. Failure to recognize or anticipate the requirements of industrial location by Howard has partially destroyed the balance he sought; and this failure seems to have been reflected in the founding of Letchworth which his followers now concede was poorly located.

Perhaps part of the reason for this neglect can be explained by Howard's attitude toward existing cities. Howard insisted that, "the simple issue to be faced and faced resolutely is: Can better results be obtained by starting on a bold plan on comparatively virgin soil than by attempting to adapt our old cities to our newer and higher needs. Thus, fairly faced, the question can be answered in one way and when that simple fact is well grasped the social revolution will speedily commence."¹⁵

Now, to show that this attitude was characteristic of the Garden City movement for a long time, may I submit the testimony of the editor of *Town and Country Planning* who ruefully conceded "that the Garden City movement has itself been partly responsible for the neglect of the periphery of London. We have perhaps stressed too much the full blooded conception of the *detached, isolated* Garden City and we have not urged sufficiently the need for control of the suburban development on Garden City lines."¹⁶

Finally, my criticism of Howard was levied particularly from the point of view of municipal government and administration. This is quite clear in the context based on the preceding and subsequent paragraphs as well as the section-heading. Howard wanted his satellite and parent communities administratively independent, a condition which I suspect even Mr. Mumford would grant was naive. The problem of our metropolitan communities today and the problem that would have faced Howard's Garden City town clusters is that "of integration, of weld-

¹¹ *Minutes of Evidence, op. cit.*, pp. 640, 642, 646-7.

¹² E. and G. Mcallister, *Town and Country Planning*, (London: Faber and Faber, Ltd., 1941), p. 138.

¹³ *Minutes of Evidence, op. cit.*, p. 648; also p. 630.

¹⁴ I observed that "the gist of Howard's program lies in his dream of promoting healthy communities of modest size each owning its own land and surrounded by green areas beyond which other communities might be formed. Metropolitan areas like London were to be emptied of their excess inhabitants. A balance was to be struck between

home and industry as well as between town and country. Residents would thus be able to enjoy the advantages of access to the country and closeness to work while nearby additional markets would be available to farmers." (p. 269)

¹⁵ E. Howard, *Garden Cities of Tomorrow* (London: Swan Sonnenschein & Co., Ltd., 1902), p. 134.

¹⁶ *Town and Country Planning* (London: Garden Cities and Town Planning Association, Vol. IV, June 1936), p. 82; see also Vol. VI, September 1936, p. 114.

ing the disparate political jurisdictions into effective communities It is precisely because of this failure of independent administrative forms to cover the requirements of what is essentially a single community which accounts for many of our critical problems of local government." (p. 279)

Incidentally, may I remind Mr. Mumford that my criticism of Howard's town cluster plan (on the ground that it was intended to provide for community spores *developing from the parent Garden City*, rather than as satellites to existing communities) plus the passage cited from Howard above as well as my analysis of the limitations of Howard's ideas on administration contain either quotations or criticisms of E. Howard's chapter on "Social Cities"; and all of this material was included in my article.

(b) In associating Howard with Borsodi and other decentralists, I meant only to classify them in one respect which I specifically indicated, namely, their loathing of the existing metropolis with its evil effect on health, etc., coupled with their common, primitive agrarian philosophy making almost a fetish of the land. This limited association, I still believe, is correct. But I do agree with Mr. Mumford that the ideas of these men are in other respects quite different and that Howard's thinking was much sounder, especially in his plan for forming town clusters.

(c) Both C. Bauer and L. Mumford apparently have forgotten or prefer to ignore the fact that I have repeatedly endorsed satellite city development in relation to existing cities, with exceptions allowed for those special cases involving resource development programs, etc. This distinction between garden and satellite cities is one which even the prominent figures of the Garden City movement have accepted. If there are any

"Doubting Thomases" on this score I want specifically to call attention to the two quotations listed below.¹⁷ This oversight of my position accounts for the easy and erroneous assumption that I am in favor of a unitary city with uncontrolled suburbs. Clearly, one of the advantages of "subcentralization" would be faster travel. Kate Liepman, who also favors satellite communities, recognizes this as well as Mr. Mumford. The clue to the confusion is that Mr. Mumford conveniently identifies the Garden City with the Satellite City.

My advocacy of the latter type of development explains why Patrick Abercrombie's proposals for new satellite towns for the London Region confirms my thesis rather than cuts the ground from under my feet. It also explains why I emphasized recognition of the importance of the journey to work in locating satellite communities. I did not claim, as Mumford unwarrantably assumes, that the journey to work was a monopoly of the metropolis. All I call attention to is that Howard and many of his followers never fully appreciated the import of the journey to work in our economy, that it had advantages as well as disadvantages. Most, if not all the people in Howard's cities were expected to walk to work. That, I think, is another reason why Howard never considered carefully the need for judicious location of his new cities. If he did, he would have recognized how dangerous it was to develop new towns with a few industries, and he would have stressed more the need for development near existing communities.

(8) Defending and explaining my own views, I find, is no small undertaking; and I would naturally prefer not to be put in the same position with reference to K. Liepman's

¹⁷(a) Sir William Whyte: "I was very interested in the questions and answers regarding satellite towns and garden cities. It seemed to me from what was said that the best and speediest way of securing decentralization would be by the creation of satellites related to the big centre, because if you attempt to set up the isolated unit, such as the garden city, that must perforce take a long time and success will be much more questionable. If you secure the same facilities in the garden city development as in the complete satellite, self-contained industry and population and all the amenities and services which you get elsewhere, is not the same result achieved. The one is nearer the big centre than the other. That is all the difference, is it not?"—(Mr. J. Eccles of Welwyn replying) "I think probably that is the only distinction. But we regard ourselves both as a satellite and garden city and therefore the thing is synonymous as far as Welwyn is concerned." (*Minutes of Evidence*, op. cit., p. 656.)

(b) The memorandum submitted by the Garden Cities and Town Planning Association recommended that "in the neighborhood of some of the larger industrial centres satellite towns should be fostered by developing selected existing small towns and villages and by starting new towns, separated from the larger towns by a rural stretch three to ten miles wide according to the size of the parent town. Where a town is too large and is therefore zoned for the restriction of further industry, it will probably be found that some new industries and businesses wish to establish themselves there because they are closely related with businesses already within that town or are intended primarily to serve the town market. This is the basis of the "satellite town" as distinguished from a more isolated "garden city" catering for a wider market. Letchworth is an instance of the latter. Welwyn has something of the satellite town character. (*Minutes of Evidence*, op. cit., p. 748-9)

study. But since I did lean on her research in my own analysis and since Mumford lumps us more or less in the same category, I feel prompted to make a few brief comments. It is quite clear from her analysis of definitions that K. Liepman was developing arguments not only against Howard's conception of Garden Cities but also some of the loose perversions of it. It is idle to quarrel with her if she chooses to define her terms in a certain way. True, her remarks, perhaps, on the original Garden City idea do not completely convey the impression of the integrated community that Howard envisioned, but this is largely rectified by her quoting in full the definition of the Garden City as framed by the Town and Country Planning Association.¹⁸ Mr. Mumford, however, is neither fair nor correct when he charges that K. Liepman "identifies the Garden City with the single industry 'company' town." In the first place, K. Liepman makes the remark with reference to the type of *satellite community* which she favors and not to E. Howard's garden city; and secondly, she simply observes that the satellite community whose size is limited can serve only "plants of moderate size" because large-scale undertakings need the labor supply of a large town or several smaller towns. Then she merely warns in the next sentence that "location of a big works in a satellite town would involve it in the dangers of a one industry town."¹⁹

(9) Because the Garden City limits its boundaries, it is, of course, less subject to the burden of the higher costs that result from "open planning" than is the case with unmitigated urban sprawl. My point was that a price must be paid for low density development even in Garden Cities, a fact which Mr. Mumford would perhaps qualify but not deny. Instead he argues that Howard never advocated such a policy and that my criticism is based neither on "the general nor specific proposals for the garden city."

At the time I wrote my article I was not sure from Howard's writings whether he

specifically favored a density of twelve to the acre. If Mr. Mumford had read my article somewhat more carefully, he would have noted that my charge was directed not against Howard but at Garden City planning of which such a low density ratio is characteristic. Both Letchworth and Welwyn were developed on that basis (Letchworth, in fact, has only six houses to the acre); and Howard was associated with both projects! Sir Raymond Unwin, one of the leading figures of the Garden City movement vitally influenced the English building boom of the twenties in this direction by virtue of his strategic position as Director General of Housing in the Ministry of Health. *Nothing Gained by Overcrowding*, Unwin's classic thesis on the subject, was published by the Garden Cities and Town Planning Association. No prominent figure in the Garden City movement has ever objected to this policy. But if this evidence is still not conclusive, then may I present the testimony of F. J. Osborn, present leader of the Garden City movement and a close associate of E. Howard, who flatly asserted in his testimony before the Barlow Commission that "Ebenezer Howard and his followers chose 30,000 to 50,000 [as a maximum for the Garden City] because they started from the basis that residential development should not exceed about twelve houses to the acre, for which there are good practical reasons."²⁰ If Howard ever favored a higher density, he must have changed his views!

(9) An interesting general question is raised by Mr. Mumford's preference for mutations rather than continuities if thinking is to find practicable expression. It is perhaps difficult to prevent this divergence in attitudes from turning into a dispute on terminology. My view is that, properly speaking, continuity does not presuppose the absence of change. Continuity suggests where our starting point begins. People who want to breed better horses start with existing horses; those who aim to extend our knowl-

¹⁸ "A Garden City in the original sense," she says, "is a new independent centre laid out at a low density of building." (p. 89) Later she quotes the official definition adopted in 1919, namely, that "A garden city is a town planned for industry and healthy living, of a size that makes possible a full measure of social life, but not larger; surrounded by a permanent belt of rural land, the whole of the land being in public ownership or held in trust for the community." K. Liepman, *The Journey to Work*, (London:

Kegan Paul, French Trubner & Co., Ltd., 1944), p. 95. Her definition of a satellite town is, on the other hand, more satisfactory. She points out that it "would to some extent be dependent on a large town but at the same time would have a social, civic and economic life of its own. A belt of open country would separate satellite towns from the central city and from each other. Such an urban arrangement has been described as subcentralization." (p. 90)

¹⁹ K. Liepman, *op. cit.*, p. 109.

²⁰ *Minutes of Evidence*, *op. cit.*, p. 629.

edge or improve mechanical forms generally start with ideas or forms already developed. One who works with horses won't turn suddenly to railroads, motor cars, and airplanes. Each of these inventions has a past, and a future which will be built on that past. Mr. Mumford poses a false dilemma when he says continuity means horses vs. railroads. Continuities apply to both.

Mutation as conventionally defined is an abrupt variation, and in the context of the paragraph and the article it meant cities that have no root in the basic impulses of social and economic development. Not only must our present cities be reckoned with but a crucial element for the success of most new cities lies in the nature of the relationships that must govern *existing* and *new* communities. Achieving that linkage between old and new is the real key to whether we can make effective adaptations for the

future. Many of our Utopias, however well-intentioned, owe their failings to just such inadequacies; and it is at this point that Howard's thesis requires both clarification and reinterpretation. Where Howard anticipated vital currents, his ideas have excited men's minds and have possibilities of fulfillment; where they are not well rooted, where vital relationships are overlooked, where he has slighted the pressing problems of existing cities, his ideas forestall the attainment of his ultimate goal of a better way of living. Failure to sift the valid from the invalid may stultify one's purposes. The Garden City Movement may never transform more than a piddling portion of our urban civilization if its inadequacies are not frankly faced and promptly corrected.

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Constitutionality of Zoning Challenged in Virginia

AN opinion handed down in the Circuit Court of Fairfax County, Virginia, October 19, 1945, has attracted considerable attention because it invalidates a zoning procedure generally used in city and county zoning ordinances throughout the country. This is the principle of drafting such an ordinance to state that no land shall be used except for one or more uses specifically enumerated in the ordinance. The Court declares, "This system of draughtsmanship is repugnant to our system of government and not to be tolerated when challenged in the courts." The decision, if upheld in the higher courts, is significant because drafters of zoning ordinances will be required to list all uses to be prohibited in each zone—a very difficult task indeed.

The Case. A criminal action for violating the zoning ordinance of Fairfax County was brought against an operator of a motor vehicle establishment who was engaged in repairing, storing, and junking automobiles. The accused has been in business for quite some time at one location and in a zoning district where his use of the land was not in conflict with the ordinance. As his business expanded, however, he purchased a lot in a suburban residence district and proceeded to make an automobile graveyard on his property. The zoning ordinance for the

suburban residence district lists fourteen permitted uses with ten additional uses permitted when specifically authorized by the Board of Zoning Appeals. An automobile graveyard is not one of the permitted uses. It is a prohibited use, although not specifically listed. Automobile graveyards are prohibited by the zoning ordinance in the over-all statement which says that "no land shall be used . . . except for one or more of the following uses:" (it is here that the specifically permitted uses referred to above are listed.)

The Decision. Judge Leon M. Bazile cites several instances where zoning ordinances have been upheld as a legitimate exercise of the police power and acknowledges that the General Assembly of Virginia has delegated to the county boards of supervisors the authority to adopt zoning ordinances. This being true, however, does not mean "that every provision incorporated in such ordinances or every formula of draughtsmanship is necessarily valid." The point on which the opinion turns is that "the proper way to draw laws creating crimes is to prohibit specific acts; not to make all acts except certain enumerated acts criminal." Judge Bazile reasons further that the board of supervisors has the authority to "regulate . . . not to totally prohibit the use of one's land and then grant back certain specific

uses." An elaboration of this reasoning includes the following: "The acquisition and possession of property would be of slight value if under the guise of the police power a political subdivision could confiscate the use of property for all purposes and then grant back its use for certain purposes less than all uses which did not conflict with the recognized exercise of the police power."

In summation, the Opinion of the Court is that the zoning ordinance "is invalid so far as it attempts to prohibit the use of the accused's land for all purposes except the enumerated uses permitted, thereby depriving him of many lawful uses . . . which are not prohibited by any recognized extension of the police power."

The Consequences. This decision leaves Fairfax County without a zoning ordinance. It is a serious matter for the county planning commission and the board of supervisors there. It is a matter for concern in other

counties of Virginia and in cities and counties throughout the Nation. Three possible moves are now open in Virginia. First, the Board of Supervisors of Fairfax County have authorized the institution of a suit to test the decision before the Virginia Supreme Court of Appeals. Second, it has been proposed that new zoning enabling legislation be prepared for consideration at the next session of the General Assembly of Virginia. Third, zoning ordinances might be rewritten so as to meet the objections raised in the Circuit Court. The first step is under way and should proceed to a final decision. The second step merits consideration even though step one should culminate in a complete reversal of the decision of the Circuit Court. The third step might be a stopgap, but it should be a last resort only.

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Public Utility Financing in the Fourth Quarter of 1945 and a Summary of the Year 1945

Part 1. Fourth Quarter Financing

DURING the fourth quarter of 1945 public utility security offering totaled \$814 millions which exceeds the third quarter total offerings by \$48 millions and marks the highest quarter for the year. The total offerings of \$814 millions exceeds that of the corresponding quarter in 1944 by \$56 millions and was the largest of any quarter in the past nine years. Approximately three-fourths of the total for the quarter was offered in October.

Public utility long-term debt issues sold publicly are shown in Table I. The \$93 million Pennsylvania Power and Light Company's 3's of 1975, offered in October at 101.375% of par to yield 2.93% of par was the largest issue offered during the quarter. Other large issues are the \$75 million Northern States Power Company's 2¾'s of 1975 offered in October at 101.00% of par to yield 2.70%; the \$75 million Southwestern Bell Telephone Company's 2¾ debentures of 1985 offered in October at 101.83% of par to yield 2.68%; the \$75 million Pacific Telephone and Telegraph Company's 2¾ debentures of 1985 offered in December at 102.45% of par to yield 2.65%;

the \$57 million Buffalo Niagara Electric Corporation 2¾'s of 1975 offered in December at 102.06% of par to yield 2.65%; the \$49 million Pacific Gas and Electric Company's 3's of 1977 offered in October at 105.30% of par to yield 2.75%.

The lowest offering yield for the quarter was shared by two issues, the Buffalo Niagara Electric Corporation's 2¾'s of 1975, and the Pacific Telephone and Telegraph Company's debentures of 1985, both of which had offering yields of 2.65% of par. Other low offering yields were recorded by the Dayton Power and Light Company's 2¾'s of 1975, and the Southwestern Bell Telephone Company's 2¾ debentures of 1985. The lowest net cost to company after allowance for underwriters' commissions and estimated incidental expenses was 2.68% for the Pacific Telephone and Telegraph Company's 2¾ debentures of 1985.

The weighted average offering yield on publicly offered issues was 2.78% of par. The range of the underwriters' spread was from .30% for the Pacific Telephone and Telegraph Company's 2¾ debentures of 1985 to 1.25% for the Hawaiian Electric Company, Ltd., 3½'s of 1970. The weighted

average of the underwriters' spread was .58% which represents a drop of .06% from the .64% recorded in the third quarter of 1945. The weighted average cost to company was 2.80% which represents a decrease from the 2.91% weighted average recorded for the third quarter of 1945.

Table II shows eleven issues of public utility long-term debt securities offered privately during the fourth quarter of 1945. These eleven issues totaled \$42 millions. The largest issue is the \$13 million Pacific Gas and Electric Company's 3's of 1975 offered in December at par to yield 3.00%. For issues on which data are available the weighted average offering price is 100.21% of par and the average yield is 3.05% of par.

Table III presents a listing of the preferred stock offerings for the fourth quarter of 1945. There were twelve issues which totaled \$70 million with a weighted average offering yield of 3.88% of par. The \$27 million issue of the Cincinnati Gas and Electric Company was the largest issue during the fourth quarter of 1945.

Seven issues of public utility common stock were offered during the fourth quarter of 1945. The seven issues totaled \$16 million and the \$7 million Tennessee Gas and Transmission Company's par \$5 offered in November at \$72 was the largest issue. The seven common stock issues are listed below:

Four serial issues which totaled \$26 millions were offered in October. The \$16 million Northern Natural Gas Company's 2 $\frac{3}{4}$'s of 1956-1965 offered at 99.8211% of par to yield 2.05% to 2.55% was the largest issue. Other issues were the \$9 million Northern Natural Gas Company's 1 $\frac{5}{8}$'s of 1950-1955 offered at 99.8211% of par to yield 1.40% to 1.90%; the \$600,000 California Water Service Company's 1.3's-2.2's of 1946-1955 were sold privately; the \$400,000 Tidewater Telephone Company's 3's due 1946-1960 offered at \$100 to \$102.66 to yield 1% to 3%. The total of \$26 million for serial issues during the quarter exceeds by \$7 millions the total of all serial issues during 1944.

Part II. Summary of the Year 1945

The total of public utility financing in 1945, exclusive of short-term borrowing and common stock issues, was \$2,235 million. This total is the largest recorded in any year since this series was started in 1936. The volume of various kinds of public utility financing for an eight-year period is shown in Table IV. Data for 1936 and 1937 are tabulated in the February 1943 issue of this *Journal*. The total offering for the year represents an increase of 69% over the total for 1944 and approximately 570% over the low point of \$395 millions, indicated in the

(A)	Principle Amount (B)	Month of Offering (C)	Offering Price (D)
Florida Power Corp. Par \$7.50.....	\$ 2,428,569	October	\$17.00
Montana-Dakota Utilities Co. Par \$5.00.....	2,568,544	October	11.50
Tidewater Telephone Co. Par \$20.00.....	200,000	October	20.00
California Water Service Co.....	833,400	November	30.00
Central Louisiana Electric Co. Par \$10.00.....	105,690	November	26.00
Tennessee Gas and Transmission Co. Par \$5.....	6,912,000	November	72.00
Sioux City & Electric Co. Par \$12.50.....	3,434,335	December	28.88

table, which occurred in 1943. The last quarter in 1945 set a ten-year record with a total offering of \$798 millions.

The volume of financing in 1945 was approximately 70% above the average during the three years 1939, 1940, and 1941. The offering of bonds in the fourth quarter of the year may have been accelerated by the repeal of the federal government's excess profits tax law which became effective January 1, 1946. The fact that tax adjustments included losses resulting from calling bonds prior to maturity date at a call price in excess of par value may have influenced public utilities to place issues on the market earlier than normal financing would have indicated in order to receive tax offsets in connection with refunding of debt.

The volume of financing during 1945 is particularly noteworthy because in three months of the year the United States Treasury Department conducted bond drives and the marketing of public utility securities was almost at a standstill.

Publicly offered long-term bonds total \$1,777 millions, the largest annual total offering since 1936 when \$1,831 millions were offered. Privately offered long-term bonds totaled \$279 million which is the largest offering in any year since 1941. However, the downward trend in percent of long-term bonds sold privately when compared to the total of all long-term bonds was interrupted in 1944 but was resumed in 1945. Long-term bonds offered privately in 1945 constituted 14% of the total. Because of

recent action by regulatory commissions it appears that privately sold public utility bonds may assume even less importance in the future. The proportion of bonds sold privately each year from 1936 to the present is shown in the following tabulation:

Year	Percent of Public Utility Long-Term Bond Offerings Sold Privately *
1936	9%
1937	7
1938	23
1939	39
1940	36
1941	62
1942	44
1943	9
1944	20
1945	14

* Excludes serial issues.

The volume of issues with serial maturities was \$32 million which is an increase from the \$19 million offered in 1944 but less than the average offering in each of three prewar years (1939-1940-1941). Preferred stock issues total \$147 million which exceeds the offering in any of the past nine years except 1940 when \$175 millions were offered.

Sixty percent of the long-term bond issues in 1945 carried a 30-year term. This is the third year in succession in which over one-half of all long-term bonds carried a 30-year term. The following tabulation shows issues classified by length of term:

Term in Years	Large Long-Term Debt Issues Offered During 1945			
	Number of Public Offerings	Number of Private Offerings	Combined Public and Private	
			Number	Per Cent
Less than 20 years	1	0	1	1
20 years	6	4	10	13
25 years	3	7	10	13
30 years	39	9	48	60
More than 30 years	6	4	10	13
Total	55	24	79	100

In Table V a summary of offering yields, underwriters' commissions, estimated incidental expense and cost to company of bond capital from publicly offered long-term debt for the years 1936 to 1945 inclusive is given. The trend of offering yields continued downward in 1945 and for the first time the weighted average for each quarter was less than 3%. Limited significance attaches to

the trend of offering yields in a compilation of data in which no attempt was made to classify issues on the basis of criteria usually taken as indicative of bond values but it is evident that offering yields have declined from the level of prewar years.

The weighted average of underwriters' commissions by quarters was lower in 1945 than in any previous year. The weighted

TABLE I. SUMMARY AND ANALYSIS OF PUBLIC UTILITY LONG-TERM DEBT ISSUES OFFERED PUBLICLY, FOURTH QUARTER, 1945

Company and Issue (A)	Cou- pon Rate (B)	Principal Amount (C)	Ma- turity Date (D)	Month of Offering (E)	Offering Price (F)	Offer- ing Yield (G)	Under- writers' Com- missions (H)	Pro- ceeds to Com- pany (I)	Esti- mated Inc- idental Expenses (J)	Net Pro- ceeds (K)	Cost to Com- pany (L)
	%	\$			%	%	%	%	%	%	%
California Water Service Co. First Mortgage.....	3½	11,282,000	1975	October	108.00	2.85	1.00	107.00	.58	106.42	2.92
Cincinnati Gas & Electric Co. First Mortgage.....	2¾	45,500,000	1975	October	101.00	2.70	.66	100.34	.40	99.94	2.75
Connecticut Light & Power Co. First & Refund. Mort.....	3.00	15,000,000	1980	October	106.75	2.70	1.00	105.75	1	1	1
Dayton Power & Light Co. First Mortgage.....	2¾	28,850,000	1975	October	101.625	2.66	.49	101.135	.66	100.48	2.73
Hawaiian Electric Co., Ltd. First Mortgage.....	3½	5,000,000	1970	October	102.00	2.95	1.25	101.75	1	1	1
Montana Power Co. First Mortgage.....	2¾	40,000,000	1975	October	101.00	2.83	.12	100.28	.525	99.755	2.89
Northern States Power Co. First Mortgage.....	2¾	75,000,000	1975	October	101.00	2.70	.66	100.34	.47	99.87	2.76
Pacific Gas & Electric Co. First & Refund. Mort.....	3.00	49,000,000	1977	October	105.30	2.75	.50	104.80	.37	104.43	2.79
Pennsylvania Power Co. First Mortgage.....	2¾	9,793,000	1975	October	102.50	2.75	.65	101.85	.61	101.24	2.81
Pennsylvania Power & Light Co. First Mortgage.....	3.00	93,000,000	1975	October	101.375	2.93	.715	100.66	0.26	100.40	2.98
Pennsylvania Power & Light Co. Sinking Fund Debentures.....	3.00	27,000,000	1985	October	101.50	2.90	.74	100.76	0.30	100.46	2.97
Public Service Co. of Oklahoma First Mortgage.....	2¾	22,500,000	1975	October	99.50	2.77	.72	98.78	0.36	98.42	2.83
Southwestern Bell Telephone Co. Debentures.....	2¾	75,000,000	1985	October	101.83	2.68	.55	101.28	.30	100.98	2.72
Union Electric Co. of Missouri First Mtg. & Collateral Trust.....	2¾	13,000,000	1975	October	101.02	2.70	.39	100.63	.76	99.87	2.76
Indiana Associated Telephone Co. First Mortgage.....	3.00	3,400,000	1975	November	103.50	2.88	1.125	102.375	.89	101.485	2.93
Lake Superior District Power Co. First Mortgage.....	3.00	5,600,000	1975	November	102.50	2.83	.95	101.55	.63	100.92	2.91
Maine Public Serv. Co. First Mortgage & Collateral Trust....	2¾	1,200,000	1975	December	101.25	2.81	.97	100.28	.35	99.93	2.88
Buffalo Niagara Elec. Corp. First Mortgage.....	2¾	56,929,000	1975	December	102.06	2.65	.38	101.68	.90	100.78	2.72
Pacific Telephone & Telegraph Co. Debentures.....	2¾	75,000,000	1985	December	102.45	2.65	.30	102.15	.37	101.78	2.68
Sioux City Gas & Electric Co. First Mortgage & Collateral Trust.....	2¾	8,000,000	1975	December	100.625	2.72	.55	100.075	.75	99.325	2.78
Total or Weighted Average.....		660,054,000			102.03	2.78	.58	101.43	.45*	100.88*	2.80*

* Information not available.

* Exclusive of issues for which information is not available.

TABLE II. SUMMARY AND ANALYSIS OF PUBLIC UTILITY LONG-TERM DEBT ISSUES OFFERED PRIVATELY, FOURTH QUARTER, 1945

Company and Issue (A)	Coupon Rate (B)	Principal Amount (C)	Maturity Date (D)	Month of Offering (E)	Offering Price (F)	Offering Yield (G)
	%	\$			%	%
Montana-Dakota Utilities Co.						
First Mortgage	3.00	\$ 3,500,000	1970	October	1	1
Bangor Hydro-Electric Co.						
First Mortgage	3.00	5,000,000	1975	November	1	1
Coast Counties Gas & Electric Co.						
First Mortgage	2.75	1,250,000	1975	November	1	1
Cuban Telephone Co.						
Debentures	4.00	4,000,000	1965	November	1	1
Bridgeport Hydraulic Co.						
First Mortgage	3.00	6,961,000	1980	December	1	1
Houston Natural Gas Corp.						
First Mortgage	2.85	4,500,000		December	1	1
Maine & New Brunswick El. Pr. Co., Ltd.						
First Mortgage	3.75	600,000	1975	December	100.00	3.75
Maine Public Service Co.						
First Mortgage	2 3/4	1,000,000	1975	December	100.50	2.86
Pacific Gas & Electric Co.						
First & Refund. Mort.	3.00	13,000,000	1975	December	100.00	3.00
Southwestern Natural Gas Co.						
First Mortgage	3.25	2,100,000	1965	December	101.43	3.21
Trinidad Electric						
First Mortgage	3.50	300,000	1966	December	100.00	3.50
Total or Weighted Average		42,211,000			100.21 ¹	3.05 ²

¹ Information not available.² Exclusive of issues for which information is not available.

TABLE III. SUMMARY AND ANALYSIS OF PREFERRED STOCK ISSUES OFFERED, FOURTH QUARTER, 1945

Company and Issue (A)	Dividend (B)	Principal Amount (C)	Month of Offering (D)	Offering Price (E)	Offering Yield (F)
		\$		\$	%
Brooklyn Borough Gas Co.					
Par \$100	\$4.40	1,500,000	October	100.00	4.4
Cincinnati Gas & Electric Co.					
Par \$100	\$4.00	27,000,000	October	106.00	3.77
Hawaiian Electric Co., Ltd.					
Cum. Pref., Par \$20	4.25%	3,000,000	October	100.00	4.25
Public Service Co. of Oklahoma					
Cum. Pref., Par \$100	\$4.00	9,850,000	October	102.75	3.89
Tidewater Telephone Co.					
Par \$100	\$4.50	100,000	October	100.00	4.50
Union Electric Co. of Missouri					
No par	\$3.70	4,070,000	October	101.75	3.64
California Water Service Co.					
Cum. Pref., Par \$25	4.40%	3,475,000	November	26.75	4.11
Indiana Associated Telephone Co.					
No par	\$2.00	2,355,200	November	50.00	4.00
Southern California Water Co.					
Par \$25	4.25%	800,000	November	26.50	4.01
Central Power & Light Co., Texas					
Par \$100	\$4.00	10,000,000	December	102.75	3.89
Sioux City Gas & Elec. Co.					
Par \$100	\$3.90	3,800,000	December	102.00	3.82
Washington Gas Light Co.					
No par	\$4.25	4,160,000	December	104.00	4.09
Total or Weighted Average		\$70,110,200			3.88

TABLE IV. VOLUME OF PUBLIC UTILITY FINANCING, BY QUARTERS, 1938 TO 1945, INCLUSIVE*

Year and Quarter	Long-Term Bonds†				Serial Offerings‡		Preferred Stock ‡		Total in Millions
	Public Offerings		Private Offerings						
	Millions	Per Cent of Total §	Millions	Per Cent of Total §	Millions	Per Cent of Total §	Millions	Per Cent of Total §	
1938									
1st.....	\$ 106	68	\$ 49	31	\$.....	.....	\$ 1	1	\$ 156
2nd.....	179	75	55	23	2	1	2	1	238
3rd.....	240	73	81	25	5	2	1	.....	327
4th.....	350	69	81	16	55	11	19	4	505
Total....	\$ 875	71	\$ 266	22	\$ 62	5	\$ 23	2	\$1,226
1939									
1st.....	\$ 96	64	\$ 18	12	\$.....	.....	\$ 36	24	\$ 150
2nd.....	203	46	181	42	3	1	48	11	434
3rd.....	247	64	63	16	32	8	47	12	389
4th.....	155	43	183	50	22	6	4	1	364
Total....	\$ 699	53	\$ 445	33	\$ 57	4	\$ 136	10	\$ 1,337
1940									
1st.....	\$ 141	54	\$ 59	22	\$ 10	4	\$ 53	20	\$ 263
2nd.....	52	29	80	45	3	2	43	24	178
3rd.....	137	56	84	35	6	2	17	7	244
4th.....	360	9	179	30	5	1	62	10	606
Total....	\$ 690	53	\$ 402	31	\$ 24	2	\$ 175	14	\$ 1,291
1941									
1st.....	\$ 164	39	\$ 197	47	\$ 5	1	\$ 52	13	\$ 418
2nd.....	149	52	81	28	16	5	43	15	289
3rd.....	32	7	415	86	5	1	28	6	480
4th.....	103	60	43	25	20	12	6	3	172
Total....	\$ 448	33	\$ 736	54	\$ 46	3	\$ 129	10	\$ 1,359
1942									
1st.....	\$ 128	66	\$ 32	16	\$.....	.....	\$ 35	18	\$ 195
2nd.....	65	62	28	27	7	7	4	4	104
3rd.....	25	29	45	53	9	11	6	7	85
4th.....	13	13	80	82	5	5	.....	.....	98
Total....	\$ 231	48	\$ 185	38	\$ 21	5	\$ 45	9	483
1943									
1st.....	\$ 21	72	\$ 8	28	\$.....	.....	\$.....	.....	\$ 29
2nd.....	90	93	4	4	2	2	1	1	97
3rd.....	104	91	1	.....	7	6	3	3	114
4th.....	122	79	21	13	.....	.....	12	8	155
Total....	\$ 337	86	\$ 33	8	\$ 9	2	\$ 16	4	\$ 395
1944									
1st.....	\$ 137	60	\$ 64	28	\$ 8	4	\$ 19	8	228
2nd.....	66	66	20	20	3	3	11	11	100
3rd.....	157	66	17	7	.....	0	64	27	238
4th.....	594	79	139	18	8	1	17	2	758
Total....	\$ 954	72	\$ 240	18	\$ 19	2	\$ 111	8	\$ 1,324
1945									
1st.....	\$ 169	50	\$ 155	46	3	1	10	3	337
2nd.....	250	74	40	12	3	1	46	13	339
3rd.....	698	92	42	5	1	.....	21	3	761
4th.....	660	83	42	5	26	3	70	9	798
Total....	\$ 1,777	80	\$ 279	12	\$ 32	1	\$ 147	7	\$ 2,235

* Exclusive of short-term obligations (other than serial issues) and common stock issues. No attempt has been made to summarize short-term borrowings because of the impossibility of obtaining complete data. Public offerings of common stock have been negligible throughout the period.

† Exclusive of serial offerings.

‡ Includes issues sold privately as well as publicly.

§ Per cent of each type of financing to the total in the quarter shown in the right hand column.

1 Less than .5 million.

average of .58% for underwriters' commissions in the fourth quarter is the lowest of any quarter on record in this series of articles. Incidental expenses continued at about the same level as in previous years.

The cost to the company as shown in Table IV averaged slightly lower in 1945 than in previous years reported in the table. The weighted average cost to company of 2.79 recorded in the second quarter of 1945

TABLE V. SUMMARY OF YIELD AND COST DATA OF PUBLIC UTILITY LONG-TERM DEBT ISSUES OFFERED PUBLICLY (EXCLUSIVE OF SERIAL MATURITIES), 1936 TO 1945, INCLUSIVE *

Year and Quarter	Number of Issues	Offering Yields			Underwriters' Commissions			Estimated Incidental Expenses			Cost to Company		
		Range		Weighted Average	Range		Weighted Average	Range		Weighted Average	Range		Weighted Average
		%	%	%	%	%	%	%	%	%	%	%	%
1936													
1st.....	17	3.25—5.48		3.64	1.00—6.00		2.25	0.42—2.27		0.58	3.40—6.09		3.82
2nd.....	26	3.05—5.00		3.78	0.97—4.00		2.26	0.35—2.15		0.91	3.13—5.75		4.00
3rd.....	18	3.15—4.77		3.46	0.75—3.50		2.18	0.51—2.38		0.84	3.28—5.23		3.63
4th.....	32	3.00—4.87		3.37	0.74—3.25		2.06	0.23—1.68		0.54	3.12—5.38		3.51
1937													
1st.....	12	3.19—5.11		3.48	2.00—5.00		2.02	0.48—4.16		0.58	3.34—5.81		3.61
2nd.....	8	3.25—4.69		3.61	2.00—3.25		2.06	0.29—1.90		0.64	3.41—5.17		3.78
3rd.....	6	3.37—5.28		3.69	1.99—4.00		2.02	0.51—3.69		0.84	3.53—6.25		3.86
4th.....	5	3.50—4.56		3.82	2.00—3.50		2.12	0.62—1.62		0.88	3.99—5.23		4.05
1938													
1st.....	4	3.39—4.44		3.86	2.00—2.50		2.27	0.54—1.02		0.61	3.55—4.76		4.05
2nd.....	7	2.92—6.18		3.40	1.03—8.00		1.73	0.36—6.57		0.57	3.11—7.65		3.58
3rd.....	12	3.00—5.00		3.43	0.50—3.50		1.80	0.50—2.18		0.74	3.13—5.38		3.58
4th.....	12	3.01—6.20		3.44	0.96—5.00		1.98	3.32—3.33		0.58	3.15—6.91		3.59
1939													
1st.....	6	3.15—4.00		3.58	1.75—4.00		2.09	0.61—1.48		0.81	3.32—4.22		3.81
2nd.....	14	2.75—5.75		3.56	1.00—4.10		2.01	0.39—6.91		0.70	2.89—6.36		3.73
3rd.....	11	2.69—4.20		3.44	1.50—3.00		2.03	0.39—3.42		0.66	2.77—4.44		3.60
4th.....	8	3.02—3.89		3.63	1.50—2.75		1.99	0.58—1.02		0.71	3.20—4.10		3.80
1940													
1st.....	12	2.47—4.36		3.23	1.50—2.50		1.99	0.39—0.94		0.49	2.69—4.63		3.38
2nd.....	4	2.78—3.36		3.29	2.00—2.00		2.00	0.66—0.95		0.71	2.92—3.56		3.47
3rd.....	8	2.73—4.38		3.10	2.00—3.50		2.05	0.41—1.31		0.59	2.85—4.80		3.24
4th.....	14	2.51—4.50		2.81	0.50—4.00		1.75	0.36—2.81		0.51	2.62—5.06		2.91
1941													
1st.....	12	2.60—4.75		2.86	1.50—3.00		1.79	0.45—3.40		0.59	2.67—5.38		2.97
2nd.....	5	3.00—4.07		3.36	1.75—3.00		1.91	0.37—0.66		0.49	3.11—4.27		3.51
3rd.....	1	2.90—2.90		2.90	1.29—1.29		1.29	0.58—0.58		0.58	3.00—3.00		3.00
4th.....	5	2.55—4.18		2.89	0.72—3.98		1.36	0.34—1.81		0.48	2.61—4.43		2.99
1942													
1st.....	3	2.95—4.50		3.31	0.73—1.35		1.26	0.52—1.50		0.69	3.10—3.51		3.42
2nd.....	5	2.78—4.81		3.39	0.60—3.23		1.33	0.37—3.12		0.88	2.85—5.21		3.53
3rd.....	2	2.67—3.59		3.41	0.73—3.35		2.83	0.91—1.55		1.42	2.74—3.84		3.62
4th.....	1	3.11—3.11		3.11	1.07—1.07		1.07	1.04—1.04		1.04	3.20—3.20		3.20
1943													
1st.....	1	2.85—2.85		2.85	0.84—0.84		0.84	0.87—0.87		0.87	2.93—2.93		2.93
2nd.....	2	3.16—4.00		3.65	1.28—2.20		1.81	0.56—0.60		0.58	3.22—4.16		3.76
3rd.....	5	2.80—3.40		3.03	0.86—1.16		1.06	0.47—0.80		0.61	2.89—3.49		3.11
4th.....	7	2.70—3.77		3.29	0.86—2.25		1.37	0.40—1.17		0.84	2.79—3.84		3.38
1944													
1st.....	7	2.71—4.10		3.20	0.50—1.48		1.32	0.54—1.56		0.71	3.32—4.21		3.26
2nd.....	6	2.76—3.40		2.85	0.85—1.25		1.00	0.65—2.00		0.88	2.88—3.39		2.92
3rd.....	10	2.72—3.82		3.07	0.87—2.00		1.40	0.41—1.40		0.82	2.95—3.99		3.21
4th.....	11	2.72—2.98		2.79	0.70—1.16		1.03	0.31—0.86		0.44	2.80—3.08		2.87
1945													
1st.....	8	2.66—3.51		2.80	0.40—1.73		0.95	0.30—1.82		0.48	2.71—3.79		2.87
2nd.....	11	2.63—2.95		2.73	0.44—1.75		0.82	0.43—2.00		0.71	2.70—3.03		2.79
3rd.....	16	2.71—3.35		2.99	0.44—1.61		0.64	0.28—1.46		0.75	2.74—3.51		2.91
4th.....	20	2.65—2.95		2.78	0.30—1.25		0.58	0.26—0.90		0.45	2.72—2.98		2.80

* Excluding issues for which complete data are not available.

is the lowest average cost to company recorded in Table V.

High-Lights of the Year's Financing

American Telephone and Telegraph 2¾'s of 1980. This issue of \$175 millions par value debentures was the largest bond issue ever offered for competitive bidding in the history of American financing. The issue was sold in July at par. After allowance for underwriters' commissions and incidental expenses the cost to the company was 2.81%.

New York Power and Light Corporation, 2¾'s of 1975. Offered publicly in April at 102.50% of par to yield 2.63% this issue carried the lowest yield of the year. The issue totaled \$50 millions par value and, after de-

duction of underwriters' commissions and incidental expenses, cost the company 2.70% which is the lowest cost to company recorded during the year.

Commonwealth Edison 3's of 1985. This issue was the largest issue sold privately during the year. The total par value was \$100 million which is \$70 millions more than the second largest issue sold privately in 1945.

Cincinnati Gas and Electric Co. preferred stock, par \$100, was the largest offering of preferred stock during the year. The principal amount of \$27 millions was offered in October at a price of \$106 to yield 3.77%.

ORVILLE P. DEUEL

Rate Analyst

Public Service Commission of Wisconsin

Book Reviews



Mainsprings of Civilization. By Ellsworth Huntington. New York: John Wiley & Sons, Inc., 1945. pp. 612. \$4.75.

When Ellsworth Huntington states in the preface to *Mainsprings of Civilization*, the monumental summary of his quarter-of-a-century studies of climate and its role in man's ethnic and cultural development, that he purposes analyzing the role of biological inheritance and physical environment in influencing the course of history, he realizes more fully than will most of his readers how wide and varied a field he intends to explore. It is a field practically unbounded, and so diversified that there promises to be little left beyond it for anyone else to undertake; but, as any one knows who has followed the author's route of publications through the decades, it is sure to be devoted primarily and substantially to man's direct and indirect adjustments to the several elements of climate.

To review the book adequately would be impossible even in many pages. To set down first impressions gained by cursory survey of its thirty chapters would be disastrous, for every chapter must be read and reread, not once but several times, to grasp even its principal theses; in addition there are manifold elaborate corollaries of each to be explored. To select a few excerpts for consideration would be to neglect all the rest, for no excerpt can be chosen as typical, or as an example; the book can be judged only in its entirety, and appraised only in its integrity.

Heredity is discussed in eleven chapters that follow the two introductory chapters. The problems of race and ethnic evolution occupy two chapters. The consequences of man's movement in occupying his Oecumene is discussed at length, and the Puritans treated in detail as a test case. Character and inheritance, culture and heredity, evolution of divergent types, and the selective process in history, are treated in as many chapters.

The author devotes one chapter to "Junkers and Nazis" to illustrate many of his points. "Physical Environment and Human Activity" are reviewed in nineteen chapters, and almost needless to say, climate, in its several elements and in its several cycles, plays the dominant role in every one of them.

Just how much of the work Ellsworth Huntington has done through the many fruitful years of his painstaking studies of climate proves sound and scientific, remains for future scholars to judge and determine. Certain it is that they will have ample material for a fair appraisal, not only in *Mainsprings of Civilization* but in a score of other ambitious volumes that have come from his pen, with the added advantage of longer perspective and new research that the years will provide.

It is hard for the most interested contemporary to evaluate reasonably Huntington's conclusions as set forth in this monographic volume. Such multiplicity of fact, and theory, and evidence, and such variety of material are presented, that it is not easy to work out his pattern of organization or follow his line of reasoning. There is no doubt, however, that Huntington had in his mind a definite pattern and that the book presents it; there is grave doubt that many who read it will fully recognize the pattern or some of its component parts. It is a stimulating book that will bear repeated reading, and that will require frequent reference in any future work in the same field.

W. ELMER EKBLAW

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Farmers of the World: The Development of Agricultural Extension. Edited by Edmund deS. Brunner, Irwin T. Sanders and Douglas Ensminger. New York: Columbia University Press, 1945. pp. xiii + 208. \$2.50.

This little volume should prove to be a useful aid in broadening the vision of those

American social scientists who are concerned with agricultural people and problems. It is certainly timely. Most of the fifteen contributors offer something worth reading to every agricultural economist and rural sociologist. Not a few of the pages should prove interesting to the general reader.

The volume is conveniently divided into fourteen chapters, grouped into five parts. The grouping could easily have been dispensed with, for it seems mainly to bring out some highly ethnocentric implications of cultural evolution that do not mar the text. Particularly objectionable is the inclusion of the Balkans and Latin America among "peasant societies" rather than with the remainder of "Euro-American society." Even though the Balkans may be a peasant society, they have much more in common with Germany and Denmark than with India and China. To classify rural society in Latin America as a peasant type necessitates a strong imagination! One is tempted to observe that the editors were fortunate in not having to deal with Russia!

In the first chapter, which makes up the first part, Douglas Ensminger and Irwin T. Sanders define agricultural extension work, comment briefly on its status in various parts of the world, and bring out some of its broader implications. Chapters Two and Three together form the second part (non-literate societies) of the little volume. The first of these, by Solon T. Kimball, should prove useful to those who have no better source for learning about the concepts which are used in cultural anthropology. However, it fails by a wide margin to integrate these with the problems and subject matter of the remainder of the book. More realistic is the approach in Chapter Three where Felix M. Keesing discusses the problems involved in dealing with nonliterate peoples. Chosen for purposes of illustration are the reduction of residential instability, the inculcation of more continuous work activities, the replacement of subsistence activities by commercial production, the improvement of the diet, and the fomenting of social differentiation so that religion, kinship, etc., will have less influence upon economic activities.

The larger part of the volume is composed of analyses of what the editors call "peasant societies." In Chapter Four, which introduces this part, Irwin T. Sanders informs us that "folk society" has survived throughout

large portions of the world, and that such a society is "rooted in the soil," familistic, conservative, spatially and mentally isolating, integrated, and able to develop only a low standard of living. Chapters on China by Hein-Pao Yang, India by D. Spencer Hatch, the Arab Fellahin by Afif I. Tannous, the Balkans by Clayton E. Whipple, and Latin America by Charles P. Loomis are interesting and informing, even though they are hardly what one might call for in order to round out a picture of "folk society."

Four chapters are devoted to Euro-American society, the first a general treatment by Carle C. Zimmerman, and the others treating the United Kingdom (by Robert Rae), Northwest Europe (by P. Lamartine Yates and L. A. H. Pieters), and the United States (by Edmund deS. Brunner and C. B. Smith).

The conclusion is a statement by M. L. Wilson and Edmund deS. Brunner concerning the role of agricultural extension in the reconstruction of the world. On the whole, this is one of the most valuable and interesting books produced by rural social scientists during the war years.

T. LYNN SMITH

Louisiana State University



Aluminum. By Nathanael H. Engle, Homer E. Gregory and Robert Mosse. Chicago: Richard D. Irwin, Inc., 1944. pp. 494. \$6.00.

As a case study in such various subjects as public policy, market appraisals, industrial price policies, and economic history the United States aluminum industry is a most rewarding subject. During the war its capacity was increased from 250 million pounds to over 2 billion pounds. Most of this expansion was built by the Defense Plant Corporation, but operated by Alcoa. With the end of the war, what disposition should be made of these facilities? Should the government continue to own them but shut them down as stand-by facilities? Should they be sold to the highest bidder? Or should the government operate them? If private industry is unable to buy and operate these plants, should they be leased and should such leases provide for overt or hidden sub-

sides? What is the outlook for the postwar demand for aluminum?

This book was obviously badly needed and it appeared just in time to be available when the disposal policies had to be worked out. The material used in the book was obtained with the cooperation of the Department of Commerce and the Washington State Planning Council. The authors certainly cannot be criticized for having underestimated the difficulties inherent in this investigation, nor that they permitted themselves to be unduly influenced by their association with institutions in the state of Washington. The material is well presented and the conclusions, if cautious, are forthright.

If the book seems to have been partly, at least, superseded by certain recent government publications and government actions, the fault is not necessarily with the book. To cite a case in point: The authors feel that "the Hurricane Creek plant will undoubtedly be rendered obsolete by reason of the need to conserve remaining Arkansas bauxite and because it is too far inland to justify economic operation with imported bauxite." (p. 413) Likewise they see "little justification for the plant at Jones Mill, Arkansas, without benefit of low-cost hydroelectric power. Certainly it appears very doubtful that any private operator familiar with the aluminum industry would be willing to buy it for operation at the present location." (p. 410)

The fact that the Reynolds Metals Company chose these two plants as the first two government-owned facilities it wanted to lease and operate and eventually purchase, obviously does not bear out the authors' opinion. One explanation may be found in the information on the cost of production of the Jones Mill plant, which the authors give as 14.20 cents a pound (page 409), while the *Report of the Attorney General* (Sept. 11, 1945) gives the cost as below 12 cents, and expresses the opinion that the cost could be reduced to less than 10 cents a pound. (p. A 38)

For the study of the comparative costs of the different D.P.C. plants, the book obviously was written at too early a date. It should be revised in the light of the information that has now become available in the *Report of the Attorney General* and the *Report of the Surplus Property Board* to the Congress, (Sept. 21, 1945) as well as in the Hear-

ings of two Senate Committees, namely, Senator James E. Murray's on the "Future of Light Metals" and Senator Joseph A. O'Mahoney on "the Disposal of Surplus Property," both held in 1945.

While government agencies, due to wartime restrictions on information, may have been in the possession of data not available to the authors, this cannot apply to the postwar market analysis, which makes up the major part of the book. It has been handled with great care; industry as well as the student of market analysis will find the study of the methods used rewarding. Only the future can tell to what extent the forecasts made by the authors were correct. In the light of the announcement of the Reynolds Metals Company that it was embarking upon a tenfold increase in its foil capacity, one wonders whether the estimate of 15,000,000 pounds (p. 255) will not prove to have been much too low. Reynolds' projected capacity alone would double this estimate and Alcoa and several independent rollers of foil are likewise reported to be planning for expansion.

If more space has been given to an attempt to bring the book up to date rather than to praise its many valuable contributions, this should be interpreted as suggestions for an early revision in the light of recent developments. The government in its disposal policy has been making decisions of far-reaching importance which should be probed by independent appraisal.

ROBERT M. WEIDENHAMMER

Washington, D. C.



The Earth and Man. By Darrell H. Davis.
New York: The Macmillan Company,
1943. pp. xxiii, 675, illus. \$4.25.

Professor Davis' *The Earth and Man* is undoubtedly one of the best organized elementary texts available in the field of economic geography. As is usual with geography textbooks, there are many illustrations and diagrams, and the treatment is almost wholly descriptive. The book is organized into parts dealing with man and his environment, limiting effects of environmental factors, and how man obtains his living.

As must be expected in any single volume that attempts to describe man and his environment around the globe, the treatment of any one topic is necessarily brief. The author however, has chosen good illustrative examples for the various topics and has carefully outlined his subject matter; so the book as a whole presents a well-balanced, elemen-

tary survey of resources and ways of living. For these reasons, the author has certainly succeeded in his only purpose: "To serve the needs of beginning geography classes in American colleges and universities."

L. A. SALTER, Jr.

University of Wisconsin

Books Received

BAIN, JOE S. *The Economics of the Pacific Coast Petroleum Industry. Part 2: Price Behavior and Competition.* Berkeley: University of California Press, 1945, pp. 434. \$6.00.

CLARK, JOHN M. *Demobilization of Wartime Economic Controls.* New York: McGraw-Hill, 1944, pp. 212. \$1.75.

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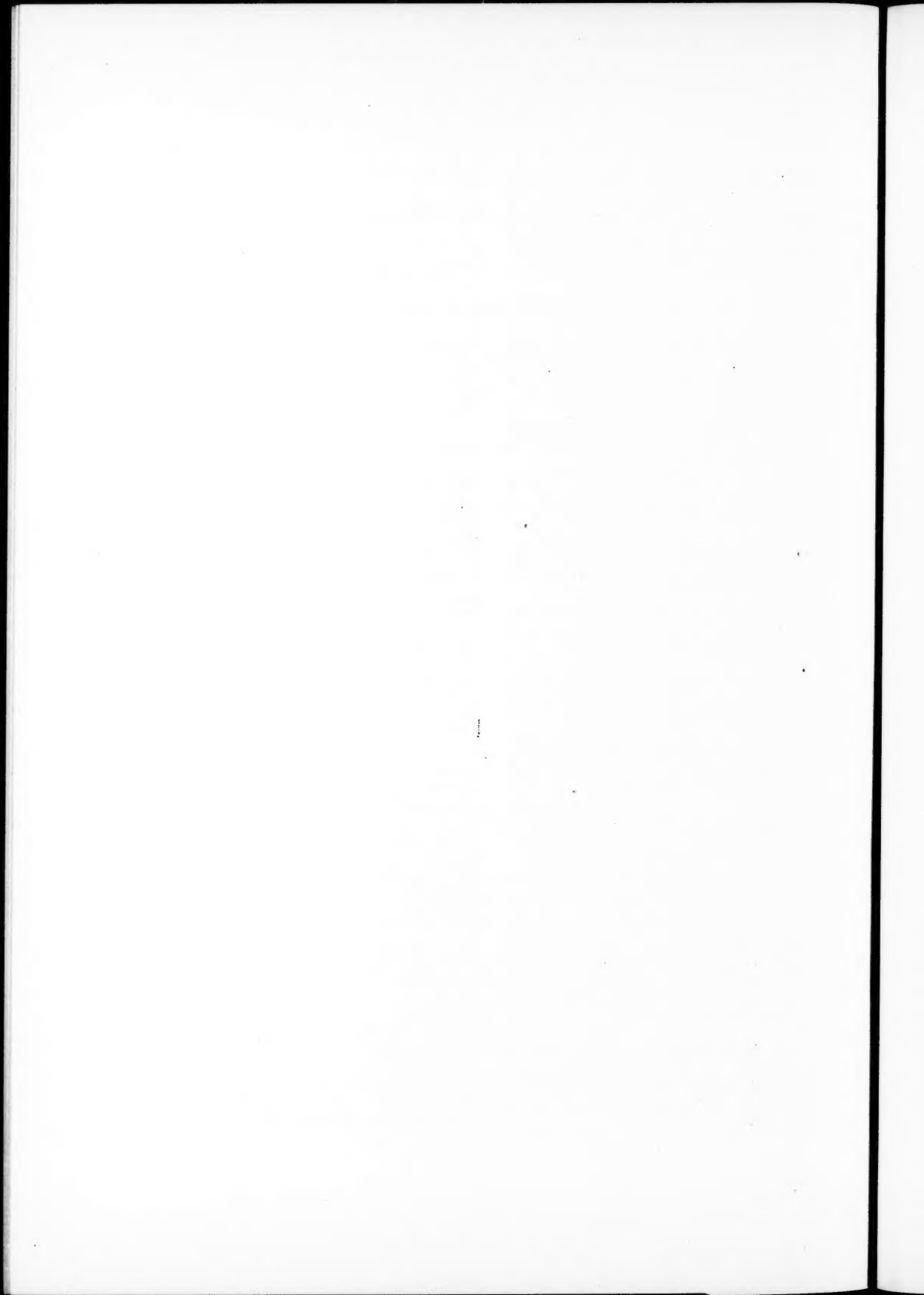
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SUPPLEMENT

PROCEEDINGS

of the

University of Wisconsin

**Conference on Social and Economic
Research in Housing**

Madison, Wisconsin

December 14-15, 1945

Reported by

GORDON E. HOWARD

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Part One: Findings

Reported by GORDON E. HOWARD*

THE Conference on Social and Economic Research in Housing was convened to consider ways and means of increasing and coordinating research activities in this field. The regrettable limitations of our understanding of housing market phenomena have become increasingly apparent as the nation fumbles for a solution to an acute shortage; and as it gropes for a formula to cure the chronic ills of high housing costs and market imbalances, of blight and slums. The pitifully inadequate resources now devoted to housing research stand in sharp contrast to the urgency and the immensity of the problems. Thus, representatives of trade associations, universities, government agencies, and professional societies gathered to review current research activities and plans, to consider methods of stimulating and coordinating research, and to develop a program of leading research problems in housing as a guide to scholars and research agencies. The Conference and the publication of this report were made possible by a grant from the Rockefeller Foundation.

The conference considered its subject matter under four major topics: Current Research Plans and Policies, Housing Research Topics, Stimulation of Housing Research, and Coordination of Housing Research. Since the second of these, Housing Research Topics, consisted of research suggestions which are incorporated in the research program presented in Part Two of this report, the following discussion will concern itself only with the other three major sections of the agenda.

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Current Research Plans and Policies

The discussion of current research plans and policies served to confirm the hypothesis which had inspired the calling of the Conference. It was reported that a good deal of research in the social and economic aspects of housing was in progress or planned, but it was evident that this work, in summation, represented only a very limited beginning toward the comprehensive research program which must be regarded as essential to the solution of the housing problem. With a few exceptions, notably the study of real estate finance by the National Bureau of Economic Research, the research reported upon was neither intensive nor broad in scope. It represented, instead, a series of rather largely isolated endeavors, each undertaken in response to the immediate and individual interests or program needs of the particular organization involved.

The research interests of the organizations represented at the Conference can be classified into one or more of the following types:

1. Fact finding.
2. Analysis, or fact finding plus analysis:
 - (a) Administrative investigations for (1) general problem application and (2) for local application.
 - (b) Fundamental research.
3. Policy analysis and recommendation.
4. Promotion, dissemination and consumption of research.

With the exception of the almost purely fact-finding activities of the Bureau of the Census, the federal agencies represented are engaged primarily in analysis or fact finding plus analysis. Most of this work appears to fall into the category of administrative investigations

directed at the solution of current policy and operating problems or at the application of policy to individual locality situations. The research interests of the National Committee on Housing, and perhaps that of the National Association of Housing Officials, seem to belong primarily to the third group, while the professional and trade associations are, for the most part, orientated toward the dissemination of the research findings of other agencies among their membership. Some of the latter, but not all, also attempt from time to time to formulate particular research projects believed necessary to the fulfillment of their individual programs or the operating needs of their constituents, and to stimulate others to perform the research. The reported activities of universities in the area that may properly be considered "fundamental research" appeared significant but very limited.

From the reports of the organizations represented and from what is known about the activities of others, it seemed apparent that very little research of a fundamental character in the social science aspects of housing is either under way or far along toward formulation. To some extent this is the result of wartime shortages in personnel, especially in the government agencies and universities, and of the necessity in the case of the government agencies for devoting their limited available personnel to administrative investigations pertinent to their current programs. Beyond this transitory phase, however, the lack of a broad, fundamental research program in the social and economic aspects of housing was clearly attributable in large part to other factors which will be dealt with in subsequent sections of this report.

Stimulation of Housing Research

An underlying hypothesis of the conference was that social and economic

research in housing has been inadequate to provide a basic understanding of the housing market and to keep pace with the ever-changing complexities of urban land problems. In keeping with this hypothesis and with the immense significance of the housing problem, the conference devoted a large share of its discussions to methods of bringing about a high level of research output. Granted that the acceleration of research is essential, what impediments stand in the way of this objective and what steps can be taken to remove them?

Role of the Universities. Efforts should be made to increase the research activity of all suitable agencies. If the Wagner-Ellender-Taft Bill is enacted, the federal government may be expected to increase its research program greatly. Even so, it appeared to be the consensus in the conference group that a large and important role will remain to be played by the universities and other independent research agencies. Such institutions can help to some extent in the solution of current policy and operating problems of government agencies and business institutions. Their peculiar contribution, however, and one which might well govern their principal efforts, is in the performance of that essential and fundamental research which increases our knowledge of basic processes without regard for the immediate applicability of research findings, for example in the operation of the housing market and the growth and structure of cities. They can contribute especially through experimental and exploratory research which may challenge methods and programs; they cannot and should not attempt to compete with government agencies in studies involving large-scale accumulation of data.

Financing Research. Support should be given to government agencies in securing

increased funds for social and economic research in housing. Beyond this, however, there is the important problem of obtaining greater financial assistance for the universities and other independent research agencies in the furtherance of basic research. It was evident that various sources of such funds are potentially available. Government agencies can assign portions of their research programs to university staff members and compensate them under appropriations for consultant services. The Wagner-Ellender-Taft Bill, if enacted, may authorize grants to universities and other independent agencies for social and economic research, and the Kilgore Bill may make possible similar grants. It is not unlikely that substantial grants can be obtained from business enterprises and their associations in support of particular projects, and possibly from major labor organizations. It was urged, however, that universities should accept research grants only on the condition that they retain complete freedom as to method and publication of findings.

Shortage of Research Personnel. While adequate financing is a *sine qua non* for an expanded research program, a continuous supply of qualified personnel is equally essential, and several conference members regarded the present shortage of trained personnel as the greatest single deterrent to an early large-scale expansion of high quality research. The rapid development of governmental housing activity, which has drawn much of the limited supply of trained research personnel into administrative investigations, and the fact that relatively few qualified research workers have been trained in graduate schools during the war period have resulted in a critical shortage at present. Efforts to overcome this shortage should be made in several directions.

In order to make it financially feasible for able young people to reject the many attractive offers available to them from government and business and continue their graduate work, more fellowships, scholarships and adequately remunerative research assistantships are essential. As a second approach, in-service training plans similar to the one now in effect between the National Housing Agency and Harvard University should be further experimented with and, if successful, expanded. Since additional research personnel will probably be needed in greater numbers than can be supplied by these methods, it is important to explore as fully as possible a third possibility of inducing research workers in related fields to devote more of their attention to housing. As one step in an effort to "sell" housing to scholars in related fields, it was suggested that research problems be drawn to their attention through their professional publications and by arranging for suitable sessions on housing at the regular meetings of the learned societies. Throughout this discussion it was emphasized that it is not sufficient merely to increase the number of research workers; the importance of the housing problem requires that the best qualified social scientists obtainable be attracted to the field.

Training Needed Personnel. The relatively large resource of the social sciences in agriculture is frequently pointed to by those concerned with urban problems as a model which should be emulated. Among the reasons for the relative progress of agricultural research is the fact that for many years agriculture has had centers of research and graduate education distributed throughout the country. Year after year these educational institutions turn out trained research workers. While the early establishment of

very many comparable centers for training young men and women in the social sciences of housing and other aspects of urbanism cannot be expected, it appears essential that some steps be taken in this direction at once in order to establish the beginnings of a regular flow of qualified research personnel into these fields.

It is important to stimulate an interest in housing on the part of the largest possible number of universities and colleges throughout the country. At the same time the conference recognized that appropriate training of research personnel can best be carried on in those universities which can offer a broad curriculum and where a high level of research activity is maintained. It appeared to be the consensus, therefore, that emphasis should be placed at this time upon the intensive development of at least a few universities where a start has been made and where these conditions can be fulfilled. The number of potential teachers is now so limited that not more than a few such centers could be developed in the near future. If all possible effort is concentrated at this time upon establishing a limited number of such centers of graduate instruction and research, there will begin to be a flow of research workers and teachers who in time will be able to staff additional centers of research and instruction at many universities.

As a basis for developing adequate curricula for such training, a definitive analysis is needed of the kinds of jobs to be performed and the educational requirements for such jobs. To this end the conference expressed its strong endorsement in principle of the research proposals in the field of housing education sponsored by the American Council on Education.

It seemed clear that the majority of those present felt that there could be no

ideal, single curriculum for training "housers," but rather that the objective should be to obtain a flexibility of requirements in the proposed centers of housing education which would enable graduate students to work in the large number of subjects and with the many techniques which must be integrated in the solution of housing problems.

Coordination of Housing Research

Social and economic research in housing must be better coordinated as well as stimulated; this was one of the major conclusions of the conference. The objective is to achieve as much as possible of the relative continuity and carry-over of research in the natural sciences. Concern was expressed over the large gaps in existing information, the limited and sporadic nature of most of the research which has been undertaken, the narrowness of outlook, and the lack of a cumulative quality.

Publications. One obvious and assuredly beneficial step that suggested itself at once was the creation of a journal or journals devoted exclusively to social science research in housing and land problems. At least two separate but related functions need to be performed. In the first place, a bibliography of research projects under way and completed should be established and kept current. Secondly and equally important, there must be improved outlets for the publication of research findings. The first function can be performed by a periodical, the second may require both a periodical and series of research monographs.

Needed—A Clearing House for Housing Research. Again and again the conference came back in its discussions of the stimulation and coordination of research to the need for an agency which can serve as a clearing house for all social science re-

search in housing. Such an agency should keep in touch with the consumers of research, e.g., business enterprises, trade and professional associations, labor organizations, and government agencies, and serve as a funnel through which such agencies could indicate their research needs to other research organizations. It could serve also as a channel through which research findings would flow back and be brought to the attention of individual operating units for the guidance of policy and operations. It could help screen requests for research grants and would give valuable support to the most urgent requests. Its staff would circulate among the universities and bring to the latter ideas for the productive application of their research resources; it would encourage sessions on housing in the meetings of the learned societies; it would attempt constantly to inspire that general concern with housing research that is essential if this field is to receive the large national research effort that it requires.

While recognizing that an integrated national housing agency would necessarily and properly undertake a great deal of leadership in housing research, no disagreement was expressed with the principle that an outside independent agency is also essential to this liaison function. Such an agency should be representative of business, labor, government, and independent research organizations; it should be adequately financed and staffed. Its functions would be similar to those performed by the Social Science Research Council through special committees in other fields. It was the clear consensus in the conference group that the Social Science Research Council would be excellently suited to this role and that a recommendation should be made to the Council that it establish a broadly-representative committee for this purpose.

Other proposals for improvement in the channels of research coordination which would in part supplement this major proposal were proposed by individuals at the conference. One of these was the possible creation, if a permanent integrated national housing agency is formed, of a national council on housing research to serve in an advisory capacity to the national agency. Another was the proposal that the major non-governmental organizations active in the housing field be requested to establish research committees, where these do not already exist, to formulate the research needs of their respective organizations and to disseminate research findings among their membership.

Next Steps. In order to accomplish these objectives, it was decided that the conference should continue as an informal entity, delegating the responsibility for carrying out its recommendations to a small working committee. Professor Richard U. Ratcliff, of the University of Wisconsin, was named chairman of this committee and was authorized to arrange for such assistance as he might need from other members of the conference. This committee was instructed to take the following steps:

1. Strongly recommend to the Social Science Research Council the establishment of a representative committee on housing research and help arrange for the financing and staffing of such a committee. The committee should also point out to the Social Science Research Council the need for research journals, bibliographies and other publications for the dissemination of housing research information.

2. Investigate the possibility of developing improved media for publication of the findings of social and economic research in housing and for publishing currently a bibliography of research projects. It was recommended that the possibility of approaching the editors of the *Journal of Land & Public Utility Economics* with this in mind be considered.

3. Advise the American Council on Education of the conference's endorsement in principle of the

Council's proposals for research in housing education.

4. Take steps to apprise philanthropic foundations and other potential sources of research financing of the conference's strong belief in the importance of expanding rapidly research in the social and economic phases of housing and of the necessity for increased financial support for such research.

5. Encourage the learned societies to include sessions on housing research in their regular meetings.

6. Pending the establishment of an adequately staffed clearing house organization for housing research, serve within its capacity as a focal point for efforts to stimulate and coordinate social and economic research in housing.

7. Report back to the whole conference some time during the following year on the progress made toward fulfillment of the recommended steps.

8. Call another meeting of the conference after the lapse of about one year or at such time as seems advisable in order to accomplish the purposes outlined in this report.

In Conclusion

The opinion of those present was that the whole field of housing is in an

extremely critical period and that the success with which this crisis is surmounted will depend to an incalculable extent upon our ability to develop and perfect a social and economic research program of major proportions. From this research will come the basic intelligence upon which the national, state and local governments, individual business firms, labor organizations and others can base their policies and operations so as to contribute in the fullest possible measure to the improvement of housing conditions. From such research can also come that practical factual knowledge around which differences of opinion can be conciliated and unnecessary unproductive controversy minimized. If all who believe in the conclusions of the conference will lend their support to the fulfillment of its objectives, there is every reason to believe that a large and significant forward stride in housing research can now be taken.

Part Two: Housing Research Program

Reported by RICHARD U. RATCLIFF*

Origin

THE research proposals which are outlined in this part of the conference report are based largely upon suggestions made by a small group of persons who met on the day before the first regular conference session.¹ Prior to this meeting each member of the group had submitted a written memorandum covering his individual notions of important areas for housing research. Additional ideas were developed during the pre-conference discussion and at the regular

conference session an opportunity was given to all delegates for the expression of further research proposals.

A Framework for Housing Thought

Housing thought, and thus proposals for housing research, may be organized either about the practical and social problems of housing, or on the basis of a theoretical framework which forms the organic skeleton upon which a body of housing knowledge and housing theory and hypothesis is to be built. The first option is appealing to the housing reformer and to the business man, for they are inclined to look toward the prompt application of research findings to housing problems. On the other hand, the

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¹ The members of the small pre-conference group were: Lawrence N. Bloomberg, Howard G. Brunsman, Leo Grebler, Gordon E. Howard, J. Bion Philipson, Richard U. Ratcliff, Svend Riemer, and Donald S. Thompson.

social scientist, recognizing the need for filling out the many gaps in our presently inadequate body of housing knowledge, sees in research the means of putting more meat on the skeleton, and prefers that research specifications be written in terms of those parts of the anatomy which are missing; he wants to see where the research product will fit into the body of existing knowledge.

The purpose of preparing and presenting a program of needed research in the field of housing is to encourage and aid scholars in expanding scientific inquiry in this field. Basically, the objective of such inquiry is the betterment of mankind through the solution of housing problems. The underlying objectives of housing reform are the elimination of substandard housing conditions and the reduction of the costs of shelter. These objectives are closely related; in fact, a prompt and sufficient reduction in housing costs would solve most of our housing problems. The obstacles which hamper the attainment of housing goals are mostly in the nature of imperfections in the housing market. As a result of these imperfections, the adjustments between housing demand and supply are inadequate with respect to quantity, quality, and timing; frictions and inefficiencies contribute to housing costs. If market imperfections lie at the bottom of housing problems, it follows that the cure calls for adjustments within the market—involving market factors, processes, and the conditioning framework of social institutions. Such adjustments can be made properly only when the market mechanism and its institutional framework are fully understood or more nearly fully understood than is the case at the present time. Thus, the extension of our knowledge of the market mechanism and its institutional framework is a practical and essential

step toward the effective design and sound administration of remedial measures.

Because research and progress are intimately linked, it is devoutly to be wished that scholars, in selecting research topics for pursuit, will give great weight to the immediacy of the need for the findings. But since the research program which is to follow is primarily for scholarly consumption, it seems important that it be organized about some logical framework of concepts so that there may be intellectual perspective and so that each research proposal may be seen to fit into its place in a system of housing thought. We shall not ignore the problems to which the research product is related. In the brief statement of objective which will be presented for each research project, mention will be made of the probable applications of the findings.

There is no basic outline of housing thought which can avoid overlapping and duplication. We shall have to be satisfied with an outline which is composed of a few rather well-defined foci about which research projects may be grouped. It is proposed here to utilize an arrangement of concepts derived from the familiar notion of the market. It must be recognized that all of the market factors and market processes in the housing field, as in the field of any other special market, are meshed with the general economy in a complex of interrelationships; and that all market forces and operations are conditioned by institutional factors which are complicated and which are dynamic. Inquiries which have their origins at points within the framework of the housing market may often lead into this outer world, but an outline of housing theory and knowledge does not pretend to cover the entire field of social thought.

The following items represent the major headings in the outline which is

to control the grouping of housing research project proposals:

- I. *Definition of Housing Terms*
- II. *Demand for Housing*
- III. *Supply of Housing*
- IV. *The Production of Housing*
- V. *Finance*
- VI. *Taxation*
- VII. *Housing Market Interactions*
- VIII. *Environment*
- IX. *Physical and Social Aspects of Occupancy*
- X. *Financial Aspects of Ownership and Occupancy*
- XI. *Governmental Intervention in Housing*
- XII. *Farm Housing*
- XIII. *Basic Series*

The following research proposals have been selected as particularly important to the completing of the body of housing knowledge. The findings would not constitute a comprehensive outline of the entire housing field. The presumption is that there already exists a substantial body of dependable knowledge and that the research most urgently needed is that which is required to fill in the gaps. The research problems will be briefly stated, with a view to indicating the nature of the problem and the objectives of the inquiry. Little will be said with respect to the techniques to be employed, nor will there be an account of prior inquiries.

I. *Definition of Housing Terms*

Although the field of housing is beginning to mature, there still exists a considerable confusion among housing agencies and scholars with respect to terminology. Past attempts to standardize terms have only been partially successful. In order to assure consistency in research techniques and comparability of findings, there is needed an authoritative statement defining the basic housing terms in a manner which will be useful and acceptable for application to all housing problems, be they in the area of substandard housing, real estate finance, sub-division development, con-

struction, planning, or any other related field.

II. *Demand for Housing*

The projects to be listed under this heading will focus upon the quantitative and qualitative aspects of housing demand. The inquiries will deal with the basic characteristics of housing demand and the forces which determine these characteristics.

A. *Housing Demand and General Business Conditions.* It is recognized that the demand for housing varies with changes in general business conditions. The nature of this variance should be explored to reveal the effect upon the demand for housing of changes in the price level, in the national product and in the national income. The underlying elasticity of housing demand should be examined. It is important in this inquiry to distinguish between the marketability of housing and demand in strictly quantitative terms, i.e., in terms of the number of family groups in need of separate housing accommodations.

B. *Housing Demand and the Location of Industry.* The relationship between economic opportunity and housing demand is well recognized in general, quantitative terms. However, it is important to examine the effects of changes in the character and location of industry, shifts in the sources of power and in lines of transportation. The effect of such changes upon housing demand is not always direct and immediate. It is important that they be fully understood in order to forecast housing needs at the local level as a basis for planning.

C. *Housing Demand and Population Change.* The inquiries proposed here are largely demographic and fall perhaps more completely in the field of population than that of housing. Population experts have devised techniques for fore-

casting changes in the quantity and quality of population. It is important, however, that the findings in population research shall be applied to the housing problem with greater refinement than they have in the past. One of the most urgently needed studies in this field is that of wartime migrations and the aftermath of these broad population movements.

D. *Techniques of Estimating Housing Demand.* The preparation of estimates of housing need has been a very popular exercise in recent months. Those scientists who have engaged in this exercise are far from satisfied with the results. Much additional work is needed in order to refine past methods.

E. *Family Living Habits and Housing Design.* The proposal here is for more extensive research to relate the functions of family living to the design of the housing accommodations. In general, surprisingly little is known with respect to what different types of families actually want in their housing. A simple and standardized technique should be developed in order to aid the architect in making sociological judgments before approaching his drawing board. This type of research has application not only to interior planning but to site planning, neighborhood planning, and to many aspects of city planning. For example, the problem of decentralization should be studied in terms of citizen opinion and preference. The question of mixed neighborhoods could be illuminated by an understanding of the preferences of families which might be required to live in such neighborhoods. The question of the optimum neighborhood size could be settled on a sounder basis with the benefit of the results of public opinion investigation.

F. *The Family Cycle and Changing Housing Needs.* It has long been recog-

nized that the family cycle is of underlying importance in the urban land field. The changing family composition from formation to dissolution gives rise to changing housing needs in terms of both aggregate space and the arrangement of that space. The rigidity of space arrangements in housing in face of the inevitable changes in family composition creates another set of problems which find their expression in neighborhood changes. As families shrink and parents age, the pristine social homogeneity of the neighborhood begins to wane, roomers invade the half-vacant houses, some of the dwellings are converted into small apartments, upkeep is neglected, and property values deteriorate. There is need for further enlightenment on the implications of the family cycle with respect to both house design and neighborhood decline.

III. *Supply of Housing*

Adequate statistics are available from the 1940 Housing Census and prior Real Property Surveys to provide a general description of our housing stock. Much of this information has not been thoroughly analyzed, particularly as it applies to communities of medium- and small-size and to suburban areas. We also have less than adequate information concerning special housing types, such as converted units and combination residential and commercial structures. There is ample opportunity for further study of the relationships between various housing characteristics. One such problem which deserves attention is the question of the newly-built structures which are sub-standard at the time of their completion. A satisfactory description of our housing stock waits upon the development and acceptance of a set of housing standards against which the existing dwellings may be measured.

IV. *The Production of Housing*

Problems dealt with under this heading are related to the house building industry, its nature and its activities. Thus, there is concern with the quantity and quality of house production, with its timing or cyclical aspects, and with housing costs, particularly those costs which derive from the productive process. It may be said generally that the research projects which are proposed under the various sub-heads will make their greatest contribution insofar as they reveal the causes and sources of waste and help to reduce the uncertainty which permeates the industry and creates numerous imperfections in the productive process. With few exceptions the research proposals which are to follow are oriented to the problem of cost of production.

A. *House Building and the National Economy.* The residential building cycle has been subjected to considerable examination. However, many of these past studies leave much to be desired and in some cases were based upon inadequate data. The continuing study of the factors affecting new house construction is highly desirable. Special attention should be given to the influence of price level, the volume of national product, and the level of national income. Another aspect of the relationship between house building and the national economy is the direct and indirect (multiplier) effects of residential building activity on general business conditions.

B. *The Entrepreneurial Function in House Building.* This subject is concerned with the productive unit in the house building business. There is much we need to know about the origins of contractors and operative builders and the incentives which lead to the creation of building organizations. It would also be illuminat-

ing to study the history of these builders in order to develop dependable data on the frequency of failure and the predominant reasons for failure.

There has lately been a special interest in the apparent reluctance of investors to undertake rental housing projects. We should explore the reasons for the attitudes of the various persons in decisive positions concerning investment in rental housing. In order to devise ways and means to increase the supply of rental housing, we must know the reasons which led to investments of this kind in the past. An attempt should be made to discover whether the obstacles to entrepreneurial activity in this field are based upon fact or upon misinformation and prejudice.

C. *Land.* Land is a basic material in house production. In order to determine what costs are involved in the process of acquiring and developing raw land, a study of the land market should be made together with an analysis of land development practices and costs. We should understand the influence of social, economic, and technological changes on the effective supply of raw land and on its price. We should also explore that segment of the land supply which consists of space already developed in a less intensive use and which is ripe for redevelopment for housing purposes.

D. *Labor.* There is need for an up-to-date study of labor organization and practices in the building trades. Much of the current information is based upon conditions which were prevalent during the building boom of the Twenties. Since that time the industry has suffered many changes. New organizations have appeared, a basic technological shift threatens, and intervention by government in the field of labor has been greatly extended. The residual effects of the war are also likely to have great

significance with respect to construction labor.

E. Building Products Manufacture and Distribution. An intensive study is needed of the nature and organization of that great industry which provides the materials and equipment out of which housing is created. There is some evidence that monopolistic practices still exist within the industry and that the cost of distributing building materials and products is high. Research in this area is particularly difficult since many of the obstacles to the free play of competition and the unrestricted flow of materials are not subject to statistical analysis.

F. Industrial Organization. The organization of the building industry has been described in a number of recent studies. Therefore, we know much of the inefficiency which results from the characteristically small-scale operation. However, we are now entering a period of industrial change with an increasing number of large producing units. It is highly important that the experience of these large-scale operators, both during the war and thereafter, shall be studied in order to measure their effectiveness in reducing costs of land development, construction, and marketing.

G. Marketing New Housing. Up to the present time, the problems of marketing the product of the building industry have been considered secondary to the problems of production. Entrepreneurs in this field have been primarily manufacturers and have given little attention to the distribution of their products. For most builders it has been a hand-to-mouth proposition involving the testing of the market only in terms of its ability to absorb the new units produced. With larger-scale operation beginning to increase, the marketing problem becomes more important and more refined tech-

niques of market analysis are called for. The whole problem of distribution in this field should be thoroughly explored.

H. Conversion. Housing space can be produced by subdividing existing structures, as well as by building new structures. This process of conversion has particular significance in times of intense housing shortage such as existed in certain communities during the war and such as faces the nation today in most localities. The potentialities of this device should be explored first by analyzing the supply of structures which are suitable for conversion. It is also important to analyze the conversion experience of the Home Owners Loan Corporation in connection with its wartime conversion program. This should be done before the records are misplaced or lost. The study of conversion should include not only the problems relating to the production process but also the financial aspects of operation.

I. Local Regulation of House Building. It has long been contended in many communities that building codes tend to increase unnecessarily the cost of construction. In order to remedy this situation, we are in need of studies of the specific costs which are excessive. This type of analysis might also be extended to cover the effects on housing costs of various other types of social controls of land use, such as zoning and subdivision controls.

V. Finance

There are two aspects of the financing of housing that call for illumination. In the first place, as a part of the search for ways and means of reducing costs, we must uncover any waste in the financing process and try to determine to what extent uncertainty and a lack of understanding of the market on the part of lenders is responsible for the present

level of interest rates and the present nature of lending terms. The second search must be for the relationship between lending policies and the lack of adjustment between demand and supply which characterizes the housing market. Can social controls or incentives be applied so that these imbalances may be reduced?

The research program which has been undertaken recently by the National Bureau of Economic Research in the field of real estate finance is very comprehensive and the findings will most certainly meet the objectives stated above. The following topics comprise the program of investigation:

- (1) The urban real estate market and its financing needs.
- (2) Facilities and practices in urban real estate financing.
- (3) Risk experience in the financing of urban real estate.
- (4) Instability and urban real estate financing.
- (5) Government intervention in urban real estate financing.
- (6) Studies of special problems of urban real estate financing.

With this research program already under way, the subject would seem to be covered most comprehensively, and no further projects need to be initiated. Items 3 and 4 seem to be most pertinent to the solution of cost problems in housing and to the reduction of market maladjustments.

VI. Taxation

The need in this area is for practical research aimed at discovering ways and means for spreading or shifting the costs of local government and services so that housing is relieved of some of the burden. Taxation as a control device needs further exploration.

The various proposals which have been made for shifting the tax burden from real property, such as the payroll

tax and others, should be examined; and the experience of localities which have tried them should be carefully analyzed.

Another phase of this general subject is the use of property taxation as an instrument of social control. Such subjects as homestead tax exemption, the graded tax, and tax exemption as a subsidy device should be subjected to further scientific analysis.

Other aspects of taxation which might be further investigated are the implications of the capitalization of the property tax; the use of federal aids in relieving local tax burdens; the leakage of the tax base into suburban areas; and the fiscal aspects of expanding governmental services. It is difficult to draw the line in this field about subjects affecting housing. The fact that real property is the primary base for local tax revenues means that all municipal fiscal problems are of interest to the householder.

The subject of taxation is an important discipline in its own right. Without having thoroughly explored the literature of taxation, it is evident that the subjects mentioned above have already been subjected to considerable analysis. However, the continuing controversies which surround these subjects indicate that acceptable answers have not yet been found and that there is need for further inquiry.

VII. Housing Market Interactions

The topics for research which are suggested under this heading deal with the complex relationships among the factors and forces of the housing market and the institutions which influence its behavior. We are concerned here with the product of the market operation as well as the market processes themselves. Our view is of post-transaction phenomena as well as of the transaction and aggregate of transactions.

It would be easy to say, with truth, that we should direct research at all aspects of the market processes and transactions. There is almost no single phenomenon about which our knowledge is sufficient. But we have pursued here the somewhat more practical approach of extracting certain special problems, complex enough in themselves, but of considerably less scope than the entire housing market.

A. *Filtering Down.* Filtering down, as a phenomenon of the housing market, is the product of the interaction of basic market forces. We shall never properly understand this phenomenon until we have more complete knowledge of the forces which give it birth. This research proposal, therefore, properly should be coextensive in scope with the housing market and its objective should be the full understanding of the forces and reactions of the market. But for present purposes it will be sufficient to present certain selected questions which bear rather directly on the filtering effect.

As a first step in this somewhat limited analysis of the dynamics of the housing market, it is proposed that a history be written of the present substandard housing. For various types of bad housing the following aspects should be explored: the original character of the housing when it was first introduced into the supply; the original quality level and the original economic level of the dwellings; the time interval between the original construction, any major alterations in the structures such as conversion, and the arrival of the dwellings at the bottom of the value scale; the value history, tracing the fluctuations and decline in price or rent in light of various conditioning factors; the quality history of the housing; the occupancy history showing the succession of occupants and their social and economic characteristics; also, the

relationships between succession and the family cycle. This descriptive analysis should cover a study of the quality and price levels at which new housing is currently being introduced into the market.

The various forces which condition filtering should be explored. For example, what is the effect of fluctuations in total housing demand, in demand at various economic levels, including the lowest level? Other factors include changes in the level of family incomes, changing price levels, and real estate market activity or turnover. Does economic stability inhibit filtering? What are the frictions created by the use of filtered units which are ill-adapted to the latest occupants in size, arrangement, or location? What is the effect on filtering of barriers of racial discrimination?

The influence on filtering of the basic factors of city growth and structure should be tested; for instance, the forces of urban decentralization and all other social, economic, and technological factors that are responsible for changing trends in urban organization. The phenomenon of surplus as it relates to the filtering process should be given special attention. What is the relation between the size of the surplus and the ease or rate of filtering? How large a surplus is needed to weaken prices to permit filtering? At what point will a growing surplus stifle new production?

The time dimension in filtering will be illuminated by the historical analysis previously suggested. All the factors affecting the rate of filtering should be examined and an attempt made to measure the variant rates of filtering in the different vertical and horizontal segments of the market.

B. *The Economics of Substandard Housing.* The application of expanded knowledge of the economics of slums and sub-

standard housing lies primarily in the design and adaptation of remedies such as the exercise of police power regulation, urban redevelopment, neighborhood conservation, conversion, and public housing. Facts on the character of ownership (the types of owners, the circumstances and origins of their ownership, the financial aspects of the operation of the properties) will aid in solving such problems as the acquisition of tracts of sufficient size for redevelopment and for public housing sites, the administration of housing regulations or the promotion of cooperative action by owners to prevent further decay or to renew run-down neighborhoods by replanning, modernization, and conversion. A greater understanding of all the economic factors leading to quality decline in housing and the creation of slums would be valuable in developing preventive controls and in awakening private owners to the dangers of the situation.

We must also expand our knowledge of the demand side of the housing market particularly with respect to the characteristics of demand for housing at the bottom of the quality scale. The price-determining functions of the market should be explored to answer such questions as whether the rent of slum housing is a monopoly price. Finally, certain aspects of the taxation of substandard housing are blind spots.

Research in the economic aspects of ownership of substandard housing must first discover the present pattern of financial interests in such properties. How are the properties financed? Who owns them? How are they managed? How large are the owners' equities? We should undertake to record and analyze the financial and operating history of different categories of substandard housing. What have been the changes in ownership? Why were the conveyances

made? What is the history of gross revenue; of operating expenses; of net returns? The various operating and financial ratios will be revealing and we may find a better answer than now exists to the question of whether substandard housing is a profitable investment. We will want to know the relationship between profitableness and substandardness, for profitableness may reflect anti-social overcrowding and the neglect of upkeep. What are the factors of ownership, operation, and environment which lead to the physical neglect of housing properties? What would be the effect on net return of adequate upkeep, of reconditioning, of decrowding? What proportion of presently substandard housing would yield a reasonable return on properly depreciated investment if the units were made standard by repair or by the installation of the minimum equipment or by the abatement of overcrowding?

There have been a number of revealing studies of the class of slum dwellers found in the blighted centers of large cities. But by no means all of our substandard housing is found in such areas nor are all the occupants of bad housing like unto those groups which have been subjected to analysis. We must know more about the social and economic characteristics of those families living below the line of housing tolerance in cities of all sizes and types, in the various sections of cities, in the several regions of the country, and in housing of differing structural characteristics. These families should be studied with respect to cultural background, economic status, and occupation. Among other matters, we should know more about the relationship between place of work and location of housing. The place of housing in the family budget is a subject of interest. We would like to know, for example,

how much bad housing is a matter of deliberate choice of the occupant-families and in what proportion of the cases the housing conditions reflect poor domestic management of available funds. Finally, the research should cover the cyclical variations in the quantity and quality of demand for the lowest grade of housing. How do the changes in various economic factors modify the nature of this demand? What long-term social and economic changes are emergent which may basically alter the character of demand? What of the declining size of family; chronic unemployment; unemployment insurance; old age pensions?

The process by which market rents and market prices are determined for substandard housing is an important subject for inquiry. If market rents are monopoly rents, there can be little increase in them for any cause, for they are already at what the traffic will bear. If this be true, it would be an important determinant of public policy.

The basis of the value placed upon slum properties by their owners is of interest for it is a common impression that owners hold their properties to be worth more than is justified by current earnings by reason of the belief that the future coming of more intensive uses will raise values. It is said that improper zoning enforces this impression. Transactions involving substandard housing should be studied to determine whether the sales prices reflect speculative hopes and to what extent the prices are based upon returns from the antisocial or illegal use of the property.

There are several aspects of property taxation in its application to substandard housing which must be subjected to research. We must have the whole truth on tax delinquency. What proportion of various types of substandard properties are tax delinquent? How does

tax delinquency fluctuate with changing economic conditions? Does the failure to pay the tax bill result in lower rents or in higher profits? Tax assessments of substandard housing are said to be too high in general. What is the effect of over-assessment on market value? On rents? Does over-assessment actually exist? Does over-assessment, and thus an undue tax burden, contribute to the delinquency of housing? Would a rationalization of assessments contribute to the solution of the housing problem by reducing fixed charges and thus encouraging better upkeep? With further reference to the burden of taxes, delinquency, and tax revenues from slum properties, we need still more light on the relationship between the tax revenues from substandard housing and the various costs which are paid for out of tax monies. Analyses of this type have been made for the slum areas of large cities but we need similar studies covering other bad housing conditions. Another question which sometimes arises is the extent of loss in tax revenue which would result from the enforcement of housing codes. Finally, the incidence of property taxes on substandard housing is a subject pertinent to questions of tax policy and housing policy.

C. Market Prices. The proposal here is for basic research in housing market price phenomena. Home owners and renters, as well as lenders and owners of rental properties have a direct interest in market prices and rents. A better understanding of price movements might help to dampen the fluctuations of the market.

An attempt should be made to relate the costs of production to market price for both new and used houses and to rents for new and used properties. It would be helpful to know more about the long-term relationships and the ampli-

tude of the fluctuations of price about the cost line. One of the first steps would have to be the development of local price indexes.

A study of the relationship between price movements and changes in the demand-supply balance would be illuminating. Other influences on price should be studied such as physical deterioration, obsolescence, environmental change, and social controls. Price movements should be examined in relationship to changes in the mortgage interest rate and in amortization requirements.

The relationship between sales prices and rents calls for analysis. Not only the static relationships should be studied, but also the time relationships of price and rent movements.

D. *Cyclical Aspects of the Market.* It is a general objective of this research proposal that the course and causes of the real estate cycle shall be examined. Although we have some data on cyclical behavior, we must improve these data and attempt to detect relationships and causal connections. We must make an effort to explain the specific cyclical behavior of the housing market in terms of general business cycle theory. This field is wide open for exploration by theoretical analysis and empirical study on both a national and a local basis. This area of inquiry would involve the study of relationships between the various indicators of market change. The leads and lags between such indicators as vacancies, foreclosures, prices, production, interest rates, and other factors should be a subject for investigation.

The study of the cyclical aspects of the real estate market leads naturally to an examination of the influences of market fluctuations in the national economy with special application to the general stabilization program.

VIII. *Environment*

The environmental aspects of housing form a vast field for study. Many of the uncertainties which create excessive housing costs reflect the general lack of understanding of the dynamic aspects of the city. Many of the devices of control, such as city planning and zoning, by means of which the quality of housing may be improved and preserved, are still crude in their application because of imperfect knowledge.

The study of the growth and structure of cities is basic to the solution of many of the specific housing problems. The creation of a satisfactory housing environment calls for a better understanding of human and economic needs than is now available to city planners. We need to develop sound density standards for residential land use as well as a better basis for allocating space to the other land uses such as public, recreational, commercial, and industrial. Basic studies of the dynamics of urbanism are needed so that master plans will not become obsolete almost before they are completed. Wastes involved in premature and badly located subdivision could be reduced if city growth trends could be predicted with greater accuracy. The planning of urban redevelopment schemes calls for an understanding of internal shifts. Research is needed on the causes of neighborhood decline and blight. What will be the influence of new forms of transportation? What will be the nature and effect of the postwar variety of decentralization? What quantitative and qualitative changes in population characteristics confront us and what are the implications? What is the optimum size of a city? Of a neighborhood? Scores of aspects of the internal structure of cities remain unexplored. For example, what are the relationships between the family cycle, land values,

and the changing structure of the community? Or what of minority groups, their segregation and assimilation? Under what conditions can mixtures of racial and ethnic groups or mixtures of families of variant economic groups live together without friction and disruption of ecological relationships? The whole subject of the succession of urban land uses has hardly been touched. Problems of neighborhood conservation should be studied. Political obstacles to orderly urban development need exploration. For example, the subject of annexation and its attendant legal and political aspects calls for attention. This field of city growth and structure is so broad and so basic that few aspects of housing are unrelated to it; it is so relatively untouched that it is impossible to list here all of the needed research.

IX. *Physical and Social Aspects of Occupancy*

The research problems proposed under this heading deal with phenomena which occur when housing facilities are occupied. In general, the topics grow out of relationships between the physical features of housing and the physical and social characteristics of the occupant groups.

A. *Housing Conditions.* The social significance of substandard housing has never been properly measured. We know that it is bad, but we do not know how bad. As witness to this deficiency, note the crude statements on housing need emanating from private and governmental sources.

The formula required to produce a quantitative measurement of the social importance of bad housing calls for two factors: (1) values for each of the attributes of bad housing; (2) measures of the frequencies of each of these factors. The subsequent research proposal on

housing standards is designed in part to fill in the first unknown. It is here proposed that research be undertaken to find the answer for the second. During the last fifteen years millions of dollars have been spent in collecting facts descriptive of the housing stock of this nation and other large amounts of time and money have been devoted to appraising these data. The results have been disappointing perhaps because of the inherent difficulty of translating the complications of housing quality into homogeneous and revealing quantities. We need better techniques of description and classification.

But it is not a sufficient guide to national, state, or local action merely to have the housing problem expressed in the aggregate. To know where and when to act, we must know more of the real impacts of substandard housing on various segments of our population. In order to know how to act, we need a more refined description of the problem.

The history of the housing movement shows a preoccupation with the housing problems of large cities. There is a tendency to extend the evaluation and interpretation of the situation in metropolitan slums to areas and to localities which are different in essential characteristics. Too often the remedies designed for slums are not applicable to small-town problems or to outlying areas of bad housing even in the metropolitan areas. In some cases the benefits of housing legislation are denied all but the largest cities. This lack of balance in the attack upon the national housing problem indicates the need for a greater refinement in the evaluation of the problem.

Research on the incidence of substandard housing conditions must, of course, deal with each of the basic quality attributes relating to the physical

features of the structure, the use or occupancy of the dwelling, and the environmental factors. The matter should be studied in all its geographical and ecological aspects—by classes of localities having various combinations of characteristics, by regions, by areas within communities. Special attention should be given to the suburban slum and to rural housing. The approach should be historical and dynamic, for it is important to know not only which are the worst housing problems, but also which of the situations are growing worse and with what relative speeds. The incidence of the several attributes of bad housing should be measured for the various culture groups, racial minorities, and economic levels. Overcrowding and doubling up should be studied as a way of life.

B. *Housing Standards.* The primary objective of research in the field of housing standards is the measurement of the social costs which are created by the various undesirable aspects of shelter. Such costs may be evaluated from the standpoint of the persons directly subjected to bad housing conditions, or from the standpoint of the community. The measurement may be in terms of physical, moral, or psychic detriment to the occupants of the housing and to the community, or in terms of net financial loss in added tax burden or economic loss in property values or income. Standards at various levels for each housing attribute can be judged by the costs which would be avoided.

An understanding of the social costs of bad housing is essential to the making of social decisions to correct the conditions which create the costs. Society must balance the prospective social gain, i.e., reduction in costs, against the financial burden of the cure on the public purse or on individual property owners.

Some measurement of social costs is necessary to the design of social controls over housing and as a guide to all forms of governmental intervention of both a positive and a preventive nature. There must be a sound basis for regulating additions to the housing stock through such environmental controls as city planning and zoning, and by means of the quality regulation of structures in building codes. Standards need to be developed to guide the delineation of areas which are slums fit only for clearance and areas which are worth rescuing and conserving.

Standards are never static. Social and technical evolutions demand a dynamic concept of standards. Thus, in the evaluation of housing attributes and the establishment of standards we must recognize that our findings are never final. Insofar as possible, we must reflect the future in the determinations of today.

This proposal for research in housing standards is not included because of the facility with which answers may be secured. To the contrary, it is a particularly difficult and disheartening area for inquiry. There is no real hope of arriving at precise answers; for the separation of the many causative factors is well-nigh impossible. But we have made real progress in the past in identifying the features which make housing bad; we need even a crude measure of relative badness of these features. We must move more vigorously to the analysis of the things which make housing good.

Housing standards to be subjected to analysis should include standards relating to the structure, its design and equipment; to land utilization, occupancy, and the environmental aspects of housing. The study might start with a history of housing standards, tracing

the evolution of standards expressed in state and local housing regulations down to the present. Present legal standards should be catalogued, classified, and compared. A study should be made of the judicial acceptance of progressively higher standards by an analysis of all court cases dealing with housing standards and with governmental intervention in housing. It would be useful to attempt to determine whether the courts are presently ahead or behind the general public in the height to which the level of tolerance has been pushed. Some attempt should be made to define and understand the differences in standards which are applied to existing housing and to new structures; regional and local differences in standards should be appraised in light of differences in social and economic characteristics.

The determination of the specific physical standards for housing calls for a combination of technical and social science analysis. The matter of the social effects of physical characteristics must be related to costs and engineering problems. The social effects, using the term broadly, include the influences on health.

X. *Financial Aspects of Ownership and Occupancy*

The research proposals outlined here concern the fiscal aspects of occupancy under various tenure arrangements. The subjects cover housing both as a consumer's good and as an investment.

A. *Housing Expenditures and Family Income.* This is a popular subject both from the housing standpoint and from the budget standpoint as well. But the numerous studies which have attempted to measure the ratio of housing costs to income have failed to produce satisfactory results because of the inherent difficulties in securing refined and dependable data. Thus a primary ob-

jective of this study is to evaluate existing studies and make new measurements as required. Furthermore, there are a number of the dynamic aspects of this relationship which have never been explored.

One of the first tasks is to attempt to determine what has been happening over a period of years to the share of the national income, in terms of aggregate family expenditures, which has been going for shelter purposes. We should know whether that share is increasing or decreasing, and the relationship of these changes to changes in the income level and in personal savings. The changing pattern of family expenditures should be appraised.

We are in need of a static measurement of the ratios of income and housing costs based upon dependable data and subclassified in a great number of categories based on the social and economic characteristics of families and the qualitative aspects of the housing. Another pertinent question is what happens to the pattern of family expenditure when housing costs are reduced? Does all of the saving go for better housing, or do all items of expenditure share in normal proportion? The effect of changing incomes on housing expenditures should be analyzed in relation to both tenant and home owner groups and for various income levels. The effect of different culture patterns on expenditures for housing should be analyzed, as well as the differences among communities and regions.

B. *Investment Aspects of Housing Ownership.* (1) *Owner-Occupancy.* Our present notions of the costs of housing to the owner-occupant are at best generalized and relatively crude. We need more dependable figures and a greater refinement than the present available over-all averages will provide. Some of the cost elements have never been measured.

The only sound method for securing housing cost data is the recording and analyzing of actual expenditures during the entire period of ownership. The actual financial experience of a large sample of home ownerships should be recorded for analysis with sub-classifications of the data to show differences by price class, type of structure, neighborhood, and locality characteristics.

Prospective home owners are usually handicapped in making housing decisions by the lack of a sound basis for estimating future costs of repair and replacement. An authoritative study of this subject would lead to sounder decisions with respect to the acquisition of a home and to sounder management policies during the period of ownership.

Depreciation as a cost is usually overlooked by prospective home owners; they are aware that properties change in value but do not understand the causes of depreciation nor do they have any basis for estimating its future effect. A study of this cost element to evaluate the various factors which lead to loss in value would be useful. A study of a large sample of ownership experiences would provide a better basis for forecasting probable loss through depreciation than is now at hand.

An interesting comparison could be made of the actual costs of housing for owner-families and tenant-families covering a period of years and giving recognition to the quality of housing occupied. In this study it would be important to explore the economic and psychological implications of the differences between costs and outlays.

(2) *Rental Housing.* The inadequacy of the amount of new housing which is constructed for rent constitutes a widely recognized problem. In working toward the solution of this problem and in providing a sounder basis for management

policies, it is important to explore the actual financial experience of rental properties. As compared with home ownership experience, there is a somewhat better basis in the case of income properties for analyzing costs. A thorough-going analysis of data in the hands of management companies, government housing agencies, and the OPA Rent Department would provide a sound basis for a badly needed rationalization of real estate management policies. This type of inquiry also has application to the investment problem. It would be particularly useful to analyze the experience of those housing properties which are wholly owned through direct investment by large financial institutions. An analysis of rental housing experience would be useful also in making decisions relative to the proposed yield insurance scheme.

There are a number of special problems which fall under the general heading of rental housing. It would be an interesting exploration to consider all of the differences between housing as a consumers' service and housing as a capital asset. Another general subject which has been mentioned in another connection is the operating experience of substandard housing in the rental class. Finally, the special operating characteristics of rented single-family houses is worthy of exploration.

(3) *Management Policies.* Management policies which relate to the physical aspects of residential structures have a direct influence on the pattern of their value decline, and hence upon the rate of filtering. These policies also have a direct influence on rent levels and rental returns. For these reasons, research dealing with maintenance and reconditioning of housing is of importance in gaining an understanding of basic principles. We know too little of the eco-

conomic aspects of repair and maintenance. Historical studies of a large number of properties of various types and locations would be required in order to evaluate the influence of maintenance policies upon the productivity and capital value of the housing.

The problem of repair and reconditioning has special significance as it relates to slum housing. Many a structure now substandard could be made into acceptable housing by repair and modernization. Many structures could be saved from the final descent below the level of tolerance by adequate and timely maintenance.

We need to know the financial effect of reasonable expenditures for maintenance on the net income from operations for various types of structures, of various ages, and at various rent levels. For example, is it sound management, from a long-term financial standpoint, to permit slum properties to become physically run down? We need some better and more comprehensive guide for judging when a structure is dilapidated beyond repair to replace the usual statutory test of whether the cost of rehabilitation exceeds 50 per cent of the value of the property; for example, the future of the entire neighborhood should be considered. Finally, as suggested as parts of other research projects, it would be helpful to know whether or not profits from operations after repair are likely to be sufficient to write off the expenditures necessary to put substandard dwellings into acceptable condition; and whether, under proper accounting practices, there could have been accumulated out of past earnings a sufficient reserve from previous earnings to meet the costs of reconditioning.

In the analysis of management policies, there should be an attempt to measure the inter-relationships between the var-

ious operating costs so that, for example, the additional capital costs of more durable construction may be balanced against future savings in upkeep and the expenditures for upkeep may be judged in light of probable reductions in the rate of depreciation.

C. *Special Tenure Arrangements.* There are a number of tenure arrangements that lie between full ownership and tenancy. The schemes involve numerous variations, and include such devices as cooperative housing and mutual home ownership. The fiscal aspects of these systems should be explored, for there are an increasing number of going projects to provide data derived from actual experience. It is not inconceivable that research in this area may lead to the development of new variations in methods of holding which will combine the stability of ownership and the flexibility of tenancy.

XI. *Governmental Intervention in Housing*

These research problems are in general attempts to analyze the effectiveness of governmental controls and aids directed to the solution of various housing problems.

A. *Police Power Regulation.* Regulation of antisocial housing through local housing codes of various kinds has received less attention than it deserves as an integral part of any remedial housing program, be it of national, state, or local origin. For background, this type of social control should be subjected to an analysis of its evolutionary development, its social, political, and legal history.

We need to know where we now stand with respect to the nature and coverage of housing codes. As a guide to improving the effectiveness of such controls, we must discover the causes of their apparent failure. To integrate them into

a comprehensive housing program, we must appreciate the economic repercussions of their application.

Housing codes have developed in various forms as mild reform measures. Their evolution should be studied as one aspect of the broadening social awareness. The political history as well as the social history should be traced. An analysis of statutes and court decisions will bring out the evolution of constitutional limitations on the scope of this type of regulation.

The historical analysis of housing regulation will naturally develop a catalogue of state and local laws which will permit a comparison between state and localities. Variations should be analyzed and explained. The catalogue will also indicate the extent to which the various political subdivisions are equipped with regulatory measures and will measure the lack of coverage, which is apparently of considerable extent.

A careful analysis of the causes of failure of police power regulation will serve as a guide to corrective measures. This part of the study must examine such factors as public indifference and antipathy, pressures from property owners and investors, reluctance of the courts to enforce regulations, the threat of loss of tax revenue, various administrative defects, the cost of enforcement, and other matters.

To understand what really happens when regulations are enforced, it will be necessary to undertake case studies covering individual properties and neighborhoods. The actual effects of enforcement on the physical characteristics of the property should be appraised along with the financial effects in terms of gross rents, operating costs, and net income. It would also be interesting to know just what happens to the occupant families when compulsory repair or demolition

takes place. The effects on tax revenues and public expenditures should be explored. An attempt should be made to measure the results of enforcement under various conditions in effecting a reduction in the stock of low-rent housing relative to demand and in creating compensatory overcrowding or the development of suburban slums. A careful study of the direct and indirect results of the demolition programs in Milwaukee, Chicago, and in other cities might yield some results even at this late date.

B. Public Housing. There has been accumulated a sufficient body of experience in the operations of the public housing program in this country to provide the basis for an objective analysis of its results. For policy making purposes, we should appraise the repercussions and implications of actual public housing operations within local housing markets. The objectives of such an exploration would be to discover whether public housing does in fact perform the functions which it is designed to perform; and to measure the real costs so that they may be compared with the costs of alternative devices such as the rent certificate. We need a better basis for measuring the social gains against the costs. Another objective is to study the nature and extent of the competition of public housing with private ownership and construction activity.

The method for this type of research would call for local case studies of public housing activity in which an attempt would be made to determine the costs of the program, probable costs of alternative methods, accomplishments, and the repercussions of the program in the local housing market.

Insofar as available information permits, the various devices (such as the rent certificate) which are alternatives

to public housing should also be studied in action.

C. *State and Federal Intervention in Home Financing.* There has been considerable experience accumulated in connection with both state and federal regulation and intervention in the field of home financing. There is need to appraise this experience and to study the influences which have been exerted in the housing field by such agencies as the Federal Home Loan Bank System, the Federal Housing Administration, the Federal National Mortgage Association, and the various state regulatory agencies which have authority over banking and savings and loan operations.

XII. *Farm Housing*

Rural housing is a relatively unexplored area. There is a wide recognition of the noisome state of a large proportion of farm housing and of the rural slums which spot the nation. But since the housing evils are inextricably tied to the problems of agricultural land use and income, past solutions have been attempted only by indirection, that is, through the medium of agricultural policy and reform. The fact that the farm house is so inseparably a part of the producing unit explains the relative inattention to the specific problem of shelter. Research on rural housing may proceed to delve into all aspects of the problem without danger of duplicating work already done. The first task, most certainly, is exploratory, to identify the underlying housing problems and their relationships with general agricultural matters, and so to lead the way to more pointed research into shelter problems.

Additional information on almost all phases of effective and potential agricultural housing demand and supply is needed. Clarification of the relationship between housing conditions and types

of tenure would be fruitful. How, for example, do housing problems and solutions vary as among sharecroppers, tenants, owners, part-time farmers and migratory workers; or between different regions such as the tobacco and cotton-fields, the corn and wheat belt or the dairy regions? Analyses of the economic background and prospects of agricultural counties and regions might throw light on the causes of existing housing conditions. Specific investigations of rural migration and the declining percentage of the population working on the land should be conducted with particular emphasis on the amount and character of the residual rural housing needs. Equally important are studies of present and prospective cash income of those who need housing in agricultural areas, the portion of their total income presently allotted or imputed to housing and the amount that might be tapped to help amortize the cost of decent, standard dwellings.

Census surveys have furnished useful general knowledge on the physical state of existing housing. Little analytical material is available, however, about rural building processes. Possible rehabilitation of agricultural houses must also be considered. What types of repairs are needed and what would the costs be? How many of these units are serviceable for other purposes such as storage?

Rural slums are often substandard from the date of construction. How pervasive are such building patterns? Even if the housing is decent, it often fails to adapt itself adequately to the many and varied functions of a farm home and the special climate and type of agriculture practised in different regions. Important equipment like plumbing, water supply, sewage disposal, heating, and lighting is frequently missing or inadequate. Few practicable social controls over building

operations are now in existence. Useful and well designed public regulations can help in preventing the emergence of future slums. More stringently enforced police powers may likewise be necessary to eradicate existing antisocial housing conditions. A study of the limitations of present regulatory powers and the obstacles to an extension of these powers would be useful. A thorough reappraisal of present rural housing standards and norms should be made.

Finance is as strategic in rural as in urban housing. Studies are needed to determine the kind and value of dwellings that long-run farm income in each area can support. Varying housing costs for different agricultural regions must also be examined. What are the present limitations of federal and state credit agencies and regulations insofar as they relate to farm housing? Can we make use of past experience and possibly improve existing arrangements for easing the burden of fixed mortgage payments in times of low or no income? Factors that affect interest rates might be examined further. It would be valuable to appraise the various tax proposals like property income taxation or homestead exemption which are still moot issues, despite extensive discussion.

Some students of agriculture have been considering the possibility of establishing rural villages, like those in Utah, in preference to the isolated farm house.

Would improved housing result from such developments because of reductions in cost for housing and utilities? What rural movements or trends exist or have developed in favor of communal living? In the case of large farms employing agricultural laborers as well as in areas where tenancy and share-cropping predominate, group housing may be feasible and perhaps economical. Would such alternatives, however, involve too violent a break with the prevailing agricultural tradition in this country? Somewhat comparable research on the role of county seat towns and small villages or communities as social and service centers for rural communities would be of considerable though indirect value.

XIII. *Basic Series*

As in any new field of social science inquiry, a primary obstacle to enlightenment is the absence of dependable basic data. In recent years, substantial steps have been taken in the development of basic housing series but much remains to be done. The problem here is not alone devising the specifications for a useful series but also in working out the machinery for securing the data and keeping them up to date. While this problem is not technically one of research, it is a problem which must be more adequately solved if research is to fill in the many gaps in the body of housing knowledge.